Fugu rubr ENTCQ25TR ENTQD93TF

ENTKK47TR

RPCI-23-4 1M0265124 1M0068B03

ENTEM36TF EST572669 2M0246M24 2M0080C24 1M0154M01 SP\_1005\_A EBed02\_SQ EST564297

Tetraodon

AZ113646 AZ460341 AZ460341 AZ535744 BH149983 BH149983 BH268582 BH146852 BH1686203 AZ57207 AZ812205 AZ81205 AZ81205

Scoring table:

Searched:

Perfect score:

Sequence:

OM nucleic

on:

RPCI-23 SFR003.H0 1M0535G22 EST568325 T7 end of ENTRB12TR

AL439128 BH161951

Fugu ru' EST5681

```
/strain="Salvador I (Collins, W. 1972. J. Parasitol. 69, 497-598)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Enkaryota: Alveolata: Apicomplexa; Haemosporida; Plasmodium.

Eukaryota: Alveolata: Apicomplexa; Haemosporida; Plasmodium.

E. (bases 1 to 633)

S. Carlton, J.M. R. and Dame, J.B.

The plasmodium vivax and P. berghei gene sequence tag projects

L. Parasitol. Today 16 (10), 409 (2000)

Contact: Dame JB

Dept. of Pathobiology, College of Veterinary Medicine
University of Florida

2015 SW 23rd Avenue, Bldg 1017, Gainesville, FL 32611, USA

Tel: 352 392 4700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AZJOYGO8 633 bp DNA linear GSS 15-MA)
263PvD09 Pv MBN #30 Plasmodium vivax genomic 3', DNA sequence.
AZ569608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Plasmodium vivax"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Email: damej@mail.vetmed.ufl.edu
Seg primer: M13(-20) forward
Class: shotgun.
                                                    A2113646
A2460541
FR0048073
                                                                                                                                                                                                                                                                                                                                                            FR0047601
BM165622
                                                                                                                                                                                                                                                                                                                                                                                                               BE437454
AZ658872
BM165802
                                                                                                                                                                                                                                                                                         CNS01VTG
AZ185454
BM441017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CNS07CG2
BH161951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /db_xref="taxon:5855"
                                                                                                                                                                                                                                                                        CNS04ALV
                                                                                                                                                                                                                                                                                                                                                                                                  AZ296172
                                                                                                          AZ535744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                  AZ55(
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         malaria parasite P. vivax.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GI:13979872
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1. 633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AZ569608.1
175.8
175.2
175.2
172.3
171.2
171.2
171.2
171.2
171.2
171.2
171.2
171.2
166.8
166.8
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
166.2
186.8
185.8
184.2
182.2
181.2
180.4
178.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT
AZ569608
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
 υυ
                                                                                                                                                                                                                                                       0000
                                                                                                                      June 14, 2002, 10:11:48; Search time 2486.45 Seconds (without alignments) 18113.913 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ENTDV54TR
ENTBQ34TR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BM029212 IPSkn0005
BH040136 RPCI-24-2
AZ548467 ENTEK30TR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AZ569608 263PvD09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                  1 gaattooggtaaagtaacaa......tottataaaataaataatto 333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AZ551618 E
AZ531291 E
BH146886 E
AZ551092 E
BH160272 E
                                                                                                                                                                                                                                                                                                                                                                27472414
                GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                          13736207 seqs, 6748477542 residues
                                                                                                                                                                                                                                                                                                                                                            Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Maximum Match 100%
Listing first 45 summaries
                                                                                      nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AZ551618
AZ531291
BH146886
AZ551092
BH160272
AZ640388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AZ569608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BH040136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A2548467
                                                                                                                                                                                                                                                                      IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                              Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gb_gss:*
em_gss_hum:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               em_gss_inv:*
em_gss_pln:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Post-processing: Minimum Match 0%
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     em_gss_vrt:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-667-130-1
3337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             em_esthum:*
em_estin:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                em_estov:*
em_estpl:*
em_estro:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   em_htc:*
gb_est1:*
gb_est2:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              em_estba:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   em_estmu:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gb_htc:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EST:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        440000008888777
```

Database

GSS 15-MAY-2001

/clone\_lb="pw MBN #30"
/dev\_stage="assxual blood forms"
/lab\_host="asimir! boliviensis"
/lab\_host="vector: pBluescript SK(+) vector DNA, phagemid
exclsed from lambda ZAP: Site\_1: EcoR v; Site\_2: EcoR V;
Host leukocytes were extracted from P. vivax Infected
blood using the following methods: first, infected blood
was activated by the addition of 0.5 ml of ADP (40mg/ml)
per 10 ml blood. Then blood was passed over a column of
acid washed 0.1 mm glass beads, then through a Plasmodipur
filter, followed by passage through a column of pre-wet

ENTPK48TF ENTFJ22TF ENTQV49TR 1M0502E21 ENTBV68TR

AZ640388 AZ529191 ENTEV58TR EBpi03\_SQ

AZ550256 I AL444958 BM170064

FR0048173 BM170064 AZ550256 BM374465

192 191.8 190.4 189.4

CNS04NSM BH153606

220 214.2 209 203.2 203.2 200.6 200.6 199.8 197.4 193.8

Score

Result è Fugu rubr EST572587

Tetraodon ENTIS83TF

AL299119 T BH153606 E

Jun

```
Whatman CF11 powder (1:2 ratio volume of blood to CF11), and finally centrifueed through a 508 Percoll density cushion. Purified DNA was digested with mung bean nuclease in the presence of 44% formamide at 500c as described (Vernick, R.D., Imberski, R.B., and McCutchan, T.F. 1988. Nucleic Acids Research 16:6883-6896). Digested DNA was blunt-ended using T4 DNA Polymerase and size fractionated over a Sepharose CL-2B column. Fractions in the size range 500bp-4kb were ligated into the Eco RV site of pBluescript 58(+), and E. coli XL-10 Gold transformed with the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Citaliurus punctatus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Moopterygii; Teleostei; Ostariophysi; Siluriformes;
Ictaluridae; Ictalurus.
I (bases I to 475)
Karsi, A., Gao,D., Li, P., Ju, Z., Kocabas, A., Feng, J., Patterson, A.,
Mickett, K.D. and Liu, Z.
Transcriptome analysis of channel catfish (Ictalurus punctatus):
Initial analysis of gene expression and microsatellite-containing
Unpublished (2001)
Contact: Liu ZJ
                                                                                                                                                                                                                                                                                             1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EST 05-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                               440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               500
                                                                                                                                                                                                                                                                                                                         gaaacagaagaaggactacctggtgatatggaaggaggaagaagaagctggcgatatggaa 560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       рмидэдіг
IpSkn00051 Skin cDNA library Ictalurus punctatus cDNA 5', mRNA
sequence.
                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tcattaggagaggtttccactgaagatatggaaacagaagatggctcaacagatgatacg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               381 ttaacagatttgccaattgaagacgatgaggaagtcaacgaaacgttagatggaggtgaa
                                                                                                                                                                                                                                                                                           1;
                                                                                                                                                                                                                                                            DB 12; Length
                                                                                                                                                                                          1 others
                                                                                                                                                                                                                                                        Score 435.8; DB 12; Length
Pred. No. 5.7e-47;
0; Mismatches 2; Indels
                                                                                                                                                                                          146 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                actggcgatttggaagcaggggaagaactg 711
                                                                                                                                                                                        196 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BM029212.1 GI:16742782
                                                                                                                                                                                                                                                        Query Match 13.1%;
Best Local Similarity 99.3%;
Matches 448; Conservative
                                                                                                                                                                                          84 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   channel catfish.
                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BM029212
                                                                                                                                                                                      206
                                                                                                                                                                                      BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                          261
                                                                                                                                                                                                                                                                                                                                                                                             321
                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
BM029212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
```

g ò δý

ò

ò

δ

ò

ò

```
The Fish Molecular Genetics and Biotechnology Laboratory, Department of Fisheries and Allied Aquacultures and Program of Cell and Molecular Biosciences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BH040136

BH040136

BH040136

BPCI-24-255A23.TV RPCI-24 Mus musculus genomic clone RPCI-24-255A23 y DNA sequence.

BH040136.1 GI:14818806
                                                                                                                                                                                                    /note="Organ: Skin; Vector: pSportl; Site_1: Notl; Site_2: Sall"
                                                                                                                                                                                                                                                                                                                                   ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
1 (bases 1 to 691)
                                                                                                                                                                                                                                                                                                                                                                                                                          2079 gaaggaagaagtggaagaggtacctgcagaagtagaagaagagggaaggtacctgca 2138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gtagaagaagaagaagaagaagaagaaccagtagaggaagaagatgtattacaattagta 2438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Zhao, S., Nierman W., Malek, J., Shatsman, S., Akinret, B., Levins
Tsegaye, G., Geer, K., Krol, M., Shvartsbeyn, A., Gebregeorgis, E.,
Russell, D., de Jong, P. and Fraser, C.M.
                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                           gaagtagaagaagtggaagaggtaccagaagaagtagaagaaggtacccgcagaagtagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtacca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gaagaagtggaagaggtaccagaagaagtggaagaagtggaagaagtagaagtagag
                                                              USA
                                                                                                                                                                                                                                                                                                                                   ;
0
                                          Amburn University
203 Swingle Hall, Auburn University, Auburn, AL 36849,
Tel: 334 844 9208
Fax: 334 844 9208
Email: zliu@acesag.auburn.edu
Seq primer: M13 Reverse.
Location/Oualifiers
                                                                                                                                                                                                                                                                                                    Length 475;
                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                0; Mismatches 135;
                                                                                                                                                                                                                                                                                                      DB 10;
                                                                                                                                                   1. .475
/Organism="Ictalurus punctatus"
/Ob_xref="taxon:7998"
/Clone_lib="Skin cDNA library"
                                                                                                                                                                                                                                                                                                      Score 220; DB 10;
Pred. No. 3.2e-19;
                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                              154
                                                                                                                                                                                                                                                                                                      6.6%;
                                                                                                                                                                                                                                          77 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2439 ataccatcggaagaag 2454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCAGCAGCAGAAGAAG 436
                                                                                                                                                                                                                                                                                                                                  Matches 301; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 house mouse.
                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GSS.
                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                       Best Local
                                                                                                                                                     source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 3
BH040136/c
LOCUS
                                                                                                                                                                                                                                          BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
KEYWORDS
SOURCE
                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                     QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ά
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
```

m

```
205 -AGAAGAATAAGGAGGAGGAAGGATAAGGCAAAGAAGGAGAAAAAATAAGAAGAAGAAGATA 147
                                                                                                                                           GAGAGAACTTAGACATAC 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
                                                                                                                                           86
                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                              VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                         RESULT
AZ548467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                          TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                       COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              දු
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                   ò
                                                                                 g
                                                                                                                õ
                                                                                                                                        g
                                                                                                                                                                                                        end
                                                                                                                                                                                                                                                                                                                                                                                                   /cell_type="Spleen/Brain"
/octe="Vector: pTARBAC1; Site_1: BamH1; Site_2: BamH1;
RPCI-24 Mouse BAC Library produced by Pieter de Jong. The
library was cloned in the pTARBAC1 cloning vector at the
BamH1 sites using MboI partially digested male C57BL/6J
                                                                                                                                      Email: szhaoettgr.org
Clones are derived from the mouse BAC library RPCI-24. For BAC
Llbrary availability, please contact Pieter de Jong
(pdejongemail.cho.org). Clones may be purchased from BACPAC
Resources (http://www.chori.org/bacpac/orderingframe.htm). BAC e
page: http://www.tigr.org/tdb/bac_ends/mouse/bac_end_intro.html
Plate: 255 row: A column: 23
Seq primer: T7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1915 tagaaggagaaggagaaccaacggaagaagagccaagagagagagccaacagaaggag 1974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2215 cagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagagg 2274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1975 aagtgccagaagaagtaattagaggcaactccagaggacgatttcgaattagaagaaccaa 2034
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          caggagaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggagaagaagtgg 2094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2095 aagaggtacctgcagaagtagaagaagtggaagaggtacctgcagaagtagaagaagtgg 2154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2335 aagtagaagtaccagcggtagtagaagaagaggtgccagaagaagtagaagaagaagaagaag 2394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           265 AAGAAGAAGAAACAGGAGTAGGAGGAGGAAGGCGAAGGAAAAGGAGAAGGAGAAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4 ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 691;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 214.2; DB 12; Length
Pred. No. 1.6e-18;
0; Mismatches 223; Indels
                                                                                              MD 20850, USA
Mouse BAC End Sequences from Library RPCI-24 Unpublished (1999)
Other_GSSs: RPCI-24-255A23.TJ
Cother_SSs: RPCI-24-255A23.TJ
Cother_SSs: RPCI-24-255A23.TJ
Cother_SSs: RPCI-24-255A23.TJ
Cother_SSs: RPCI-24-255A23.TJ
Cother
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  404 t
                                                                                                                                                                                                                                                                             Location/Qualifiers
1. .691
/organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                        /db_xref="taxon:10090"
/clone="RPCI-24-255A23"
/clone_llb="RPCI-24"
/sex="Male"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                             /strain-"C57BL/6J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            63.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                222 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                  Seq primer: T7
Class: BAC ends.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches 392;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BASE COUNT
ORIGIN
   TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2035
                                                                                                                                                                                                                                                                              FEATURES
                                   COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     q
```

```
/db_xref="taxon:5759"
/db_xref="taxon:5759"
/clone_lib="Entamoeba histolytica Sheared DNA"
/clone_lib="Entamoeba histolytica Sheared DNA"
/note="vector: pHOSI; Site_l: BSt i; Constructed at The
Institute for Genomic Research (TIGR), Rockville, MD.
Genomic DNA isolated from broth cultures of E. histolytica is a method described by Clark and Diamond, L.S. (1993) Entamoeba histolytica: a method for isolate identification. Exp. Parasitol.
77:450.; The DNA was mechanically sheared to give a tight size distribution (-2 kb). The v + i method used for the library construction is described in detail in Smith, H.O. and Venter, J.C. (Making small insert libraries for whole genome shotgun sequenching projects. In Genome Sequencing: A Practical Approach, eds. M. Vaudin and B. Barell, Oxford University Press, 1999)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Department of Eukaryotic Genomics
The Institute for Genomic Research
9712 Medical Center Dr., Rockville, MD 20850, USA
Tel: 301 838 0208
Fax: 301 838 3543
Email: bjloftus@tigr.org
Clones are derived from the Entamoeba histolytica HM1:IMSS sheared
                                                                                                                                                                                                                                                                                                                                       AZ548467 11near GSS 14-NOV-20
ENTEK30TR Entamoeba histolytica Sheared DNA Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Entamoebidae; Entamoeba.

1 (bases 1 to 908)

Loftus, B., Van Aken, S. and Fraser, C.

Determination of clone end sequences from Entamoeba histolytica
HM1:LNSS sheared DNA library
Unpublished (2000)

Contact: Brendan J Loftus
2453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  87
2395 aagaggaagaaccagtagaggaagaaga-tgtattacaattagtaataccatcggaagaa
                                                             Length 908;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism-"Entamoeba histolytica"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 6.3%; Score 209; DB 12;
Best Local Similarity 54.5%; Pred. No. 6.8e-18;
Matches 419; Conservative 0; Mismatches 350;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Class: shotgun
High quality sequence start: 17
High quality sequence stop: 828.
Location/Qualifiers
1..908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /strain="HM1:IMSS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DNA library
Seq primer: M13-Reverse
                                                                                                                                                                                                                                                                                                                                                                                                                                                               AZ548467.1 GI:11172102
                                                                                                                           2454 gatatacaattagacaaac 2472
                                                                                                                                                                                                                                                                                                                                                                                                    genomic, DNA sequence. AZ548467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Entamoeba histolytica
```

```
Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           267
                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δý
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Op
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DNA linear GSS 14-NOV-2000
Sheared DNA Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Department of Bukaryotic Genomics
712 Medical Center Dr., Rockville, MD 20850, USA
713 Medical Center Dr., Rockville, MD 20850, USA
718: 301 838 9348
72: 301 838 3348
73: 301 818 3348
73: 301 818 3348
73: 301 818 3348
73: 301 818 3348
73: 301 808
74: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
75: 301 808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Entamoeba histolytica.
Entamoeba histolytica
Eukaryota; Entamoebidae; Entamoeba.
1 (bases 1 to 843)
Loftus, B., Van Aken, S. and Fraser, C.
Determination of clone end sequences from Entamoeba histolytica
HMI:IMSS sheared DNA library
Unpublished (2000)
Contact: Brendan J Loftus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2215 cagaagaagtggaagaggtaccagaagagtggaagaggtaccagaagaagtggaagagg 2274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2394
                                                                                                                                                                             2035 caggagaagaagtagaagaaaccgtagaggcgaagaaactgcagaaggagaagaagtgg 2094
                                                                                                                                                                                                                                                                                       2154
                                                                                                                                                                                                                                                                                                                                                                                       aagaagtaccagaagaagtagaagaggtacccgcagaagtagaagaagtggaagaggtac 2214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2395 aagaggaagaaccagtagaggaagaagatgtattacaattagtaataccatcggaagaag 2454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2515 acatgcactaccaagacgttccaaaggaatttatggaagaagaagaagaagaaactgcagtgt 2574
                                                                                                                                                                                                                          191 ATGATGATGAAGAAGAAGATGATGATGAAGATGATGAAGACGATGAAGACGACGAAT 250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    taccagaagaggtggaagaagtggaagaagtagaagtagaggtaccagcggtagtag
                                                                          1975 aagtgccagaagaagaattagaggcaactccagaggacgatttcgaattagaagaaccaa
                                                                                                                                                                                                                                                                                       aagaggtacctgcagaagtagaagtggaagaggtacctgcagaagtagaagtgg
                                                                                                                                                                                                                                                                                                               371 ATGATGAAGAAGAAGAAGATGATGATGAAGATGAAGAGGACGATGAAGACGACGAATATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2335 aagtagaagtaccagcggtagtagaagaagaggtgccagaagaagtagaagaagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    atccattgaaaccagaagattttgcaaaggaagattcacaatctacaga 2623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       843 bp ENTDV54TR Entamoeba histolytica genomic, DNA entamoeba
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              genomic, DNA sequence.
AZ551618
AZ551618.1 GI:11176919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA library
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 5
AZ551618/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                                  2095
                                                                                                                                                                                                                                                                                                                                                                                       2155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                       g
                                                                          ò
                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
```

```
/organism="Entamoeba histolytica"
/strain="HM1:IMSS"
/db_raref="texton:5759"
/db_raref="texton:5759"
/clone_lib="Entamoeba histolytica Sheared DNA"
/clone_lib="Entamoeba histolytica Sheared DNA"
/clone_lib="Entamoeba histolytica Stre_l: Bst I; Constructed at The Institute for Genomic Research (TIGR). Rockville, MD. Genomic DNA isolated from broth cultures of E. histolytica using a method described by Clark and Diamond, L.S. (1993) Entamoeba histolytica: a method for isolate identification. Exp. Parasitol.
77:450.) The DNA was mechanically sheared to give a tight size distribution (-2 kb). The v + i method used for the library construction is described in detail in Smith H.O. and Venter, J.C. (Making small insert libraries for whole genome shotgun sequencing projects. In Genome Sequencing: A Practical Approach, eds. M. Vaudin and B. Barell, Oxford University Press, 1999)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aagaggtacctgcagaagtagaagtggaagaggtacctgcagaagtagaagtag 2154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              aagaggtaccagaagaagtagaagaggtacccgcagaagtagaagtggaagaggtac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              aagtgccagaagaagtaagttagaggcaactccagaggacgatttcgaattagaagaaccaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATGATGATGAAGAAGAAGATGATGATGAAGATGATGAAGACGATGAAGACGACGAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   aagtagaagtaccagcggtagtagaagaagaggtgccagaagaagaagaagaagaagaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aagaagaagaaccagtagaggaagaagatgtattacaattagtaataccatcggaagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          747 AGTATGATGAAGATGAAGATGAAGACGATGAAGACGACGACGAATATGAATTAGAAGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            caggagaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggagaagtgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 843;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 205; DB 12;
Pred. No. 2.3e-17;
0; Mismatches 315;
                 Class: shotgun
High quality sequence start: 39
High quality sequence stop: 838.
Location/Qualifiers
Seq primer: M13-Reverse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 394; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    155
```

S

us-09-667-130-1\_1.rst

```
BH146886 890 bp DNA linear GSS 27-AUG-2001
ENTPK48TF Entamoeba histolytica Sheared DNA Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Email: bjioftus@tigr.org
Clones are derived from the Entamoeba histolytica HM1:IMSS sheared
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Entamoeba histolytica.
Entamoeba histolytica.
Entamoeba histolytica
Eukaryota; Entamoebidae; Entamoeba.
1 (bases 1 to 890)
Loftus, B., Wang, Z., Van Aken, S. and Fraser, C.
Determination of clone end sequences from Entamoeba histolytica
HMI: IMSS sheared DNA library (2001)
Unpublished (2001)
Contact Brendan J Loftus
Department of Eukaryotic Genomics
The Institute for Genomic Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1289 gaagaagtggaagaagtagaagaagtagaggtaccagcggtagtagaagtagaagtacca 2348
                                                                                                                                                                                                                    2109 gaagtagaagtggaagggtacctgcagaagtagaagtggaagtggaagaggtaccagaa 2168
                                                                                                                                                                                                                                                                                                                                                gaggtaccagaagaagtggaagaggtaccagaagtggaagtaggaagataccagaagaagtg 2288
                                                                                                                                                           2049 gaagaaaccgtaggaggggggaagaaactgcagaaggagaagaagaagtggaagaggtacctgca 2108
                                                                                                                                                                                                                                                                                  2169 gaagtagaagaggtacccgcagaagtagaagaagtggaagaggtaccagaagaagtggaa 2228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1409 gtagaagaagaagatgtattacaattagtaataccatcggaagaagatatacaattagac 2468
                                   уаассаасууааудааудессаауаудааууадауссаасаудадудаудауцессаудаадая 1988
                                                                                             1989 gaattagaggcaactccagaggacgatttcgaattagaagaaccaacaggagaagaagta 2048
                                                                                                                                                                                                                                           575 GAAGAAGATGATGAAGATGATGAAGACGATGAAGACGACGACGAATATGAATTAGAAGAT 516
                                                                                                                                                                             635 GAAGATGATGAAGACGATGAAGACGACGAATATGAATTAGAAGATGATGATGATGAAGAA 576
    MD 20850, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9712 Medical Center Dr., Rockville,
Tel: 301 838 0208
Fax: 301 838 3543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Class: shotgun
High quality sequence start: 17
High quality sequence stop: 880.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Seq primer: M13-Forward
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BH146886.1 GI:15302963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            genomic, DNA sequence.
BH146886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2469 aaaccaaa 2476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA library
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAAGAAGA 88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM
                                                                                                                                                                                                                                                                                                                                                2229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT
BH146886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMMENT
                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                  ò
                                                          g
                                                                                           ò
                                                                                                                     Q
                                                                                                                                                        ò
                                                                                                                                                                                   g
                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                      οχ
                                                                                                                                                                                                                                                                                                                                                                                                   οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota: Entamoebidae; Entamoeba.

Eukaryota: Entamoebidae; Entamoeba.

S. 10 fus.8 1. Van Aken, S. and Fraser, C.
Determination of clone end sequences from Entamoeba histolytica
HMI:IMSS sheared DNA library
Contact: Bredand J. Loftus
Contact: Bredand J. Loftus
Department of Eukaryotic Genomics
The Institute for Genomic Genomics
The Institute for Genomic Research
9712 Medical Center Dr., Rockville, MD 20850, USA
Tel: 301 838 0208
Fax: 301 838 3543
Email: bjloftus@tigr.org
Clones are derived from the Entamoeba histolytica HMI:IMSS sheared
DNA library
Seq primer: M13-Reverse
                                                                                                                                         AZ531291 877 bp DNA linear GSS 03-NOV-2000 ENTBQ34TR Entamoeba histolytica Sheared DNA Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1809 gtagggcccgcgcaagaagtgccaacggaagaattgatgcaactccaagaggacgatttc 1868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1749 gatgcaggagaggctgtaacagtaccatcaaaggaagcacctgtacaagtaccagtggca 1808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 203.2; DB 12; Length 877; Pred. No. 3.8e-17;
                             2515 acatgcactaccaagacgttccaaaggaatttatggaagaagaaga 2563
                                               0; Mismatches 328; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Entamoeba histolytica"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    High quality sequence start: 22
High quality sequence stop: 829.
Location/Qualifiers
                                                                                                                                                                                                    AZ531291.1 GI:11085838
                                                                                                                                                                                                                               Entamoeba histolytica.
Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6.18;
                                                                                                                                                                        genomic, DNA sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity 54.9
Matches 400; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        156
                                                                                                                                                                                                                    GSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                        A2531291/c
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                               AUTHORS
TITLE
                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                           JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1869
                                                                                                                                                                                                     VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
엄
                               ò
                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
```

```
798 AATTAGA 804
                                  2461 aattaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1781
                                                                                                                                                                        RESULT
AZ551092
                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                            VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                      SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        pp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                     /Graina="HM:IMSS"
/db_xref="taxon:5759"
/db_xref="taxon:5759"
/db_xref="taxon:5759"
/db_xref="taxon:5759"
/db_xref="taxon:5759"
/dboce="taxon:5759"
/denomic DNA isolated from broth cultures of E. histolytica
using a method described by Clark and Diamond, L.S.
/dboce described by Clark and Diamond, L.S.
/dboce="taxon:5759"
/d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1801 cagiggcagiagggcccgcgcaagaagigccaacggaagaaiigaigcaaciccaagagg 1860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1741 aggatoctgatgoaggagaggotgtaacagtaccatcaaaggaagcacotgtacaagtac 1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1921 gagaaggagaaccaacggaagaagaccaagagaaggagagagccaacagaaggagagagtgc 1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2341 aagtaccagcggtagtagtagaagaagaggtgccagaagaagtagaagaagaagaagaagagg 2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2401 aagaaccagtagaggaagaagatgtattacaattagtaataccatcggaagaagatatac 2460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        138 ATGAAGAAGACGATGAAGACGATGAAGAGGAGGATGAAGAGGAGGATGAAGAAGACG 197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACGATGATGAAGAAGACGATGATGAAGAAGACGATGATGAAGAAGACGATGATGAAGAAG 377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            78 ACGATGATGATGAAGATGACGATGATGAAGAAGATGATGATGATGACGATGAAGAAGACG 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       198 ATGAAGAAGACGATGAAGAAGACGATGATGAAGAAGACGATGATTTGAATTAGAAG 257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     258 ACGATGATGAAGAAGACGATGATGAAGAAGACGATGATGAAGAAGACGATGATGAAGAAG 317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     taccagaagaagtagaagagtacccgcagaagtagaagtggaagtggaagaggtaccagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1981 cagaagaagttagaggcaactccagaggacgatttcgaattagaagaaccaacaggag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2101 tacctgcagaagtagaagaagtggaagaggtacctgcagaagtagaagaagtggaagagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2221 aagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtaccag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2281 aagaagtggaagaagtggaagaagtagaagaagtagaggtaccagcggtagtagaagtag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    498 ATGAAGATGATGAAGATGATGATGATGAAGAAGACGATGAAGAAGATGAAGACGACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               618 ATGAAGAAGACGATGAAGAAGACGATGAAGAAGACGATGAAGAAGAAGAAGACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGAAGAAGACGATGAAGAAGACGATGAAGAAGACGATGAAGAAGACGATGAAGAAGACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 12; Length 890;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 200.6; DB 12; Length
Pred. No. 8.2e-17;
0; Mismatches 329; Indels
                          /organism="Entamoeba histolytica"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 6.0%;
Best Local Similarity 54.7%;
Matches 398; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      404
source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       පු
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

```
ř.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Institute for Genomic Research (TIGR), Rockville, MD. Genomic DNA isolated from broth cultures of E. histolytica using a method described by Clark and Diamond (L.S. (1993) Entannoeba histolytica: a method for isolate identification. Exp. Parasitol. 77:450.). The DNA was mechanically sheared to give a tight size distribution (-2 kb). The v + i method used for the library construction is described in detail in Smith. H.O. and Venter J.C. (Making small insert libraries for
        GSS 14-NOV-2000
                                                                                                                                                                                    SM Entamocba histolytica

Eukaryota: Entamocbidae; Entamocba.

E 1 (bases 1 to 913.)

Loftus, B., Van Aken, S. and Fraser, C.

Determination of clone end sequences from Entamocba histolytica
HM: INSS sheared DNA library

L Unpublished (2000)

Contact: Brendan J Loftus
Department of Eukaryotic Genomics
The Institute for Genomic Research
9712 Medical Center Dr., Rockville, MD 20850, USA
Tel: 301 838 9243
Far: 301 838 3543
Far: 301 838 3543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Email: bjloftus@tigr.org Clones are derived from the Entamoeba histolytica \mbox{HM}\xspace: Sheared
AZ551092 912 bp DNA linear GSS 14-NOV-200
ENTF722TF Entamoeba histolytica Sheared DNA Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 whole genome shotgun sequencing projects. In Genome Sequencing: A Practical Approach, eds. M. Vaudin and B. Barell, Oxford University Press, 1999)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ggaagcacctgtacaagtaccagtggcagtagggcccgcgcaagaagtgccaacggaaga 1840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1841 attgatgcaactccaagaggacgatttcgaattagaaggaactgcagaagctccagagga 1900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /strain="HM1:IMSS"
/db_xref="taxon:5759"
/clone_lib="Entamoeba histolytica Sheared DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 12; Length 912;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Entamoeba histolytica"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6.0%; Score 200.6; DB 12;
54.6%; Pred. No. 8.2e-17;
tive 0; Mismatches 334;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    High quality sequence start: 17 High quality sequence stop: 861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DNA library
Seq primer: M13-Forward
                                                                                                               AZ551092.1 GI:11176393
                                                      genomic, DNA sequence. AZ551092
                                                                                                                                                                     Entamoeba histolytica.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity 54.6
11; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Class: shotgun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Simi
Matches 401;
```

```
SM Entamoeba histolytica

Eukaryota: Entamoebidae; Entamoeba.

E 1 (bases 1 to 931).

S Loftus, B., Wang, Z., Van Aken, S. and Fraser, C.

Determination of clone end sequences from Entamoeba histolytica
HMI:IMSS sheared DNA library (2001)

Unpublished (2001)

Contact: Brendan J Loftus
Department of Eukaryotic Genomics
The Institute for Genomic Research
9712 Medical Center Dr., Rockville, MD 20850, USA
Tel: 301 838 0208
Fax: 301 838 3543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BH160272 931 bp DNA linear GSS 24-SEP-2001
ENTQV49TR Entamoeba histolytica Sheared DNA Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Entamoeba histolytica HM1:IMSS sheared
                                                                                                                                                                                                                                                                                                                           2201 agtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtaccaga 2260
                                                                                                                                                                                                                                                                                                                                                                                                                                                        2321 accagoggtagtagtagaagtagaagtaccagoggtagtagaagaagaggtgccagaagaagt 2380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2381 agaagaagaagaagaagagaagaaccagtagaggaagaagatgtattacaattagtaat 2440
   aggagaattagtattagaaggagaaggagaaccaacggaagaagaggccaagagaaggaga 1960
                                                                gccaacagaaggagaagtgccagaagaagaattagaggcaactccagaggacgatttcga 2020
                                                                                                                              attagaagaaccaacaggagaagaagtagaagaaaccgtagagggcgaagaaactgcaga 2080
                                                                                                                                                                                                                                                             2141 agtagaagaagtggaagaggtaccagaagaagtagaagaggtacccgcagaagtagaaga 2200
                                                                                                                                                                                                                                                                                                                                                                                           2261 agaagtggaagaagtaccagaagaagtggaagaagtggaagtagaagtagaagtagaagtaggt 2320
                              aggagaagaagtagaagatacctgcagaagtagaagtagaagtggaagaggtacctgcaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          High quality sequence start: 8
High quality sequence stop: 677
Location/qualifiers
1. 931
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Email: bjloftus@tigr.org
Clones are derived from the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Seq primer: M13-Reverse
Class: shotgun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BH160272.1 GI:15733710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Entamoeba histolytica.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    genomic, DNA sequence
BH160272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        accatcggaagaaga 2455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA library
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
AUTHORS
TITLE
 1901
                                                                                              389
                                                                                                                                                                                            2081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          749
                                                                                                                            2021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
BH160272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
ð
                              g
                                                                                       qq
                                                                                                                                                         qq
                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                              ò
                                                                                                                           ò
                                                                                                                                                                                    õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
```

```
/strain="HM1:IMSS"
/db.ref="taxon:5759"
/db.ref="taxon:5759"
/clone_lib="taxon:5759"
/clone_lib="tentamoeba histolytica Sheared DNA"
/rote="vector: pH051; Site_1: Bst I; Constructed at The Institute for Genomic Research (TIGR), Rockville, MD. Genomic DNA isolated from broth cultures of E. histolytica using a method described by Clark and Diamond, L.S. (1993) Entamoeba histolytica: a method for isolate identification. Exp. parasitol.
77:450.) The DNA was mechanically sheared to give a tight size distribution (-2 kb). The v + i method used for the library construction is described in detail in Smith, H.O. and Venter, J.C. (Making small insert libraries for whole genome shotgun sequencing projects. In Genome Sequencing: A Practical Approach, eds. M. Vaudin and B. Barell, Oxiord University Press, 1999)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2243 agtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaagtggaaga 2302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1763 tgtaacagtaccatcaaaggaagcacctgtacaagtaccagtggcagtagggcccgcgca 1822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1823 agaagtgccaacggaagaattgatgcaactccaagaggacgatttcgaattagaaggaac 1882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            agagccaagaaggaggagccaacagaaggagaagtgccagaagaagaattagaggcaac 2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2183 acccgcagaagtagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaaga 2242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2303 agtagaagaagtagaggtaccagcggtagtagaagtagaagtaccagcggtagtagaaga 2362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2123 ggaagaggtacctgcagaagtagaagtggaagtggaagaggtaccagaagaagtagaagaggt 2182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   tgcagaagctccagaggaaggagaattagtattagaaggagaaggagaaccaacggaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 regaagattagaagateateateateaagaagaagaagateateateaagateaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gggcgaagaaactgcagaaggagaagtggaagtggaaggtacctgcagaagtagaagt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   agaggtgccagaagaagtagaagaagaagaagaagaagaagaagaaccagtagaggaagaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                     Length 931;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                 Score 199.8; DB 12;
Pred. No. 1e-16;
0; Mismatches 307;
                                                                                                                                                                                                                                                                                                                                                                                                                     DB 12;
/organism-"Entamoeba histolytica"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tgtattacaattagtaataccatcggaagaa 2453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661 CGCATTATGATTAGAAGATGAGATGATGAA 691
                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 6.0%;
Best Local Similarity 55.6%;
Matches 384; Conservative 0
                                                                                                                                                                                                                                                                                                                                           402
                                                                                                                                                                                                                                                                                                                                      BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
```

```
2174 agaagaggtacccgcagaagtagaagaagtggaagaggtaccagaagaagtggaagagt 2233
                                                                                                                                                                                                                                                           2114 agaagaagtggaagaggtacctgcagaagtagaagagggaagtggaagaggtaccagaagaagt 2173
                                                                                                                                                                                                                                                                                                                                                                                                                               2234 accagaagaagtggaagaggtaccagaagagtggaagaggtaccagaagaagtggaaga 2293
2294 agtggaagaagtagaagaagtagaggtaccagcggtagtagaagtagaagtagaagtaccagcggt 2353
                                                                                                                                                                   210 AGCAGTAGGAGCAGTAGGAGCAGCAGGAGCAGGAGCAGTAGGAGCAGCAGGGGCAGC 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          90 AGCAGAAGCÁGGAGCAGTAGGAGCAGTAGGAGCAGCAGGAGCAGCAGGAGCAGGAGC 31
                                                                                                                                                                                                                                                                                    agtagaagaagaggtgccagaagaagtagaagaagaagaagaagaagaaccagtaga
                                                                                   2414 ggaagaagatgtattacaattagta 2438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30 AGCAGGAGCAGTAGGAGCAGTAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA library
Seq primer: M13-Reverse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AZ529191.1 GI:11081835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              genomic, DNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Entamoeba histolytica.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 11
AZ529191/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
1934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOURCE
                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                         á
                                                                                                                                                                                                                                                                                                                                                                             Dp
                                                                                                                                                                                                                                                                                                                                                                                                                        δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                   g
                                                                                ò
                                                                                                                    qq
                                                                                                                                                                   οğ
                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (http://www.jax.org/resources/documents/dnares/). The DNA was hydrodynamically sheared by repeated passage through a 0.005 inch orifice at constant velocity. The sheared DNA was blunt end repaired with T4 DNA polymerase and T4 polynucleotide kinase. Adaptor oligonucleotides were ligated to the blunt ends in high molar excess. The adaptored DNA was purified and size-selected for a 9.5 to 10.5 kb range using preparative agarose gelectrophoresis. Vector DNA was prepared from a derivative of pwD42 (gil4732114)gblAR129072.1), a copy-number inducible derivative of plasmid R1. The vector was ligated with adaptors complementary to the insert adaptors and purified. The sheared, adaptored mouse DNA was annealed to
    1M0502E21F Mouse 10kb plasmid UUGCIM library Mus musculus genomic clone UUGCIM0502E21 F, DNA sequence.
AZ640388
AZ640388.1 GI:11763788
ASS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           308, Biomedical Polymers Research Bldg., 20 S. 2030 E., SLC, UT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         adaptored vector DNA, and transformed into chemically-competent E. coll XL10-Gold (Stratagene) cells and selected for ampicilla resistance."
1 253 c 136 g 203 t
                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalla; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus 1 (bases 1 to 675)

Dunn, D., Aoyagi, A., Barber, M., Beacorn, T., Duval, B., Hamil, C., Islam, H., Longacre, S., Mahmoud, M., Meenen, E., Pedersen, T., Reilly im., Rose, M., Rose, R., Stokes, R., Tingey, A., von Niederhausern, A. and Wright, D., Weiss, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /sex="Male" // Alab_host="E. Coli strain XL10-Gold, T1-resistant, F-" // Alab_host="E. Coli strain XL10-Gold, T1-resistant, F-" // Alote="Vector: PWD42nv; Purified genomic DNA from M. musculus C57BL/6J (male) was obtained from the Jackson Laboratory Mouse DNA Resource
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1874 agaaggaactgcagaagctccagaggaaggagaattagtattagaaggagaaggagaacc 1933
                                                                                                                                                                                                                                                                                                                                                       Mouse whole genome scaffolding with paired end reads from 10kb plasmid inserts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           570 AGCAGGAGCAGTAGAAGCAGGAGCAGGAGCAGGAGCAGGAGCAGGAGCAGGAGC 511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /clone_lib="Mouse 10kb plasmid UUGClM library"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 197; DB 12; Length 605;
Pred. No. 2.7e-16;
0; Mismatches 230; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bmail: ddunn@genetics.utah.edu
Insert Length: 10000 Std Error: 0.00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1. .605
/organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Plate: 0502 row: E column: 21
Seg primer: CGTTGTAAAACGACGGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                      Unpublished (2000)
Contact: Robert B. Weiss
University of Utah Genome Center
University of Utah
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Class: plasmid ends
High quality sequence stop: 605.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /db_xref="taxon:10090"
/clone="UUGC1M0502E21"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /strain="C57BL/6J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 5.9%;
Best Local Similarity 59.3%;
Matches 335; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tel: 801 585 5606
Fax: 801 585 7177
                                                                                                                                                                                            Mus musculus
                                                                                                                                                                      house mouse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Email:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                                                                                                                                                                 SOURCE
ORGANISM
                 AZ640388/c
                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
ORIGIN
                                                                                                    ACCESSION
                                                                                                                         VERSION
KEYWORDS
                                                                                                                                                                                                                                                                             AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                         REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                              TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                            COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
```

2413

```
GSS 03-NOV-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Email: bjloftus@tigr.org
Clones are derived from the Entamoeba histolytica HM1:IMSS sheared
AZ529191 880 bp DNA linear GSS 03-NOV-200
ENTBV68TR Entamoeba histolytica Sheared DNA Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                      from Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /strain="HM1:IMSS"
/db_xref="taxon:5759"
/clone_lib="Entamoeba histolytica Sheared DNA"
                                                                                                                                                                                                                                                    Toftus, B., Van Aken, S. and Fraser, C.
Defermination of clone end sequences from Entamoeba HM: IMSS sheared DNA library
Unpublished (2000)
Contact: Brendan J Loftus
Department of Eukaryotic Genomics
The Institute for Genomic Research
9712 Medical Center Dr., Rockville, MD 20850, USA
Tel: 301 838 9208

    .880
    /organism="Entamoeba histolytica"

                                                                                                                                                                                                                                     Eukaryota; Entamoebidae; Entamoeba.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Class: shotgun
High quallity sequence start: 17
High quality sequence stop: 673.
Location/Qualifiers
```

```
Unpublished
                                                                                                                                                                                                                                                                                                                                                                                           Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                             Genoscope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BASE COUNT
ORIGIN
                                                              ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               303
                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2208
                                                                                                                                                       REFERENCE
       VERSION
KEYWORDS
SOURCE
                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                            TITLE
                                                                                                                                                                                                                                                                                                                                                       TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Op
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
/note="Vector: pHOS1; Site_1: Bst I; Constructed at The Institute for Genomic Research (TIGR), Rockville, MD. Genomic Research (TIGR), Rockville, MD. Genomic DNA isolated from broth cultures of E. histolytica using a method described by Clark and Diamond, L.S. (1993) Entamoeba histolytica: a method for Isolate identification. Exp. Parasitol. 77:450.) The DNA was mechanically sheared to give a tight size distribution (-2 kb). The v + i method used for the library construction is described in detail in Smith, H.O. and Venter, J.C. (Making small insert libraries for whole genome shotgun sequencing projects. In Genome Sequencing: A Practical Approach, eds. M. Vaudin and B. Barell, Oxford University Press, 1999)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Tetraodon nigroviridis genome survey sequence T7 end of clone 123MO5 of library G from Tetraodon nigroviridis, genomic survey sequence AL299119
                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2396 agaggaagaaccagtagaagaagaagatgtattacaattagtaataccatcggaagaaga 2455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2276 accagaagaagtggaagaagtggaagaagtagaagaagtagaagtagaggtaccagcggtagtaga 2335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2336 agtagaagtaccagcggtagtagaagaagaggtgccagaagaagtagaagaagaagaaga 2395
                                                                                                                                                                                                                                                                                                                                                                                         1916 agaaggagaaggagaaccaacggaagaagaagccaagagagagagagagagccaacagaaggaga 1975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1976 agtgccagaagaagaattagaggcaactccagaggacgatttcgaattagaagaaccaac 2035
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       388 CGAAGATGATGAAGACGAAGATGATGAAGACGAAGATGATGAAGATGATGAAGA 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 448 CGAAGATGATGAAGACGAAGATGATGATGAAGACGAAGATGATGAAGACGAAGATGATGAAGA 389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        208 CGAAGATGATGATGATGATGAAGACGAAGATGATGATGATGAAGACGAAGATGATGA 149
                                                                                                                                                                                                                                                                                                                                                                                                                         628 CGAAGAAGAAGAAGAAGAAGAAGATGAAGACGAAGAAGATGAAGACGAAGAAGATGAAGA 569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            328 CGAAGATGATGAAGACGAAGATGATGAAGACGAAGATGATGAAGACGAAGATGATGAAGA 269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             aggagaagaagtagaagaaaccgtagaggcgaagaaactgcagaaggagaagtgga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       508 CGAAGATGATGAAGACGAAGATGATGAAGACGAAGATGATGAAGACGAAGATGATGATGAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   568 CGAAGAAGATGAAGACGAAGAAGATGAAGACGAAGATGAAGACGAAGATGAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 agaggtacctgcagaagtagaagtagaagtggaagaggtacctgcagaagtagaagtgga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      agaggtaccagaagaagtagaaggtacccgcagaagtagaagaagtggaagaggtacc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            agaagaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                268 CGAAGATGATGAAGACGAAGATGATGAAGACGAAGATGATGATGAAGACGAAGATGATGATGAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  148 TGATGAAGACGAAGATGATGAAGACGAAGATGATGATGATGTAGTCCCATACGTATCAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tatacaattagacaaaccaaagaaagacgaattaggctctggaattttatcta 2508
                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                   Length 880;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TAAACTTTAAAATGAAGCAATAAATTATATTTTATTTATAAATATCTATTTA 36
                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                 Score 195.4; DB 12;
Pred. No. 3.8e-16;
); Mismatches 286;
                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                Query Match 5.9%;
Best Local Similarity 56.2%;
Matches 367; Conservative
                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                          BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2096
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      88
                                                                                                                                                                                                                                                                                                                                                                                       1856
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CNS04NSM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                    q
                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      å
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
```

```
AL299119.1 GI:8038260
GSS; genome survey sequence.
Tetraodon nigroviridis.
SM Tetraodon nigroviridis
Eukaryota: Metazoa; Chordata; Cranlata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
Acanthomorpha; Acanthopterygii; Teleostei; Euteleostei; Neoteleostei;
Acanthomorpha; Acanthopterygii; Percomorpha; Tetraodontiformes;
Tetraodontidae; Tetraodon.
Tetraodontidae; Jaillon,O., Dasilva,C., Fizames,C., Fisher,C.,
Bouneau,L., Billault,A., Quetler,F., Saurin,W., Bernot,A. and
Weissenbach,J., and repeat analysis of the compact genome of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Direct Submission
Submitted (12-APR-2000) to the EMBL/GenBank/DDBJ databases
Submitted (12-APR-2000) to the EMBL/GenBank/DDBJ databases
This sequence is a single read and was generated as part of a large
scale clone-end sequencing project of the Terracodon nigroviridis
genome. For more information, please take a look at
http://www.genoscope.cns.fr/Tetracodon.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ï
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human gene number estimate provided by genome wide analysis using Tetraodon nigroviridis DNA sequence
                                                                                                                                                                                                                                                                                                                                                                               2 (bases 1 to 735)
Roest-Crollius, Jaillon, O., Dasilva, C., Bouneau, L., Fisher, C.,
Bernot, A., Fizames, C., Wincker, P., Brottier, P., Quetier, F.,
Saurin, W. and Weissenbach, J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ID : COBG123AG03LP1~end : T7"
t 28 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1969 aaggagaagtgccagaagaagaattag-aggcaactccagaggacgatttcgaattagaa 2027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gaaccaacaggaggaagtagaagaaaccgtagaggcgaagaaactgcagaaggaga 2087
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gaagtggaagaggtaccagaagaagtagaagaggtacccgcagaagtagaagagtggaa 2207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GYAGTAGTAGTAGTAGTAGTAGTAGTAGTAGWAAWAGTAGTAGTAGTAGTAGTAGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 735;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 193.8; DB 12; Length
Pred. No. 6.5e-16;
7; Mismatches 219; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /organism="Tetraodon nigroviridis"
/db_xref="taxon:99883"
/clone="123M05"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             sequence
g 197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note="Genoscope
45 c 223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /clone_lib="G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (bases 1 to 735)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 5.8
Best Local Similarity 59.4
Matches 332; Conservative
```

```
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMMENT
                                                                                                                                                                                                                                                 g
                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                         òγ
                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Op
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    οý
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /strain="HM1:IMSS"
/db.zref="taxon:5759"
/dlone_lib="taxon:5759"
/clone_lib="taxon:5759"
/clone_lib="taxon:5759"
/clone_lib="taxon:5759"
/clone_lib="taxon:5759"
/clone_lib="taxon:5759"
/clone_lib="taxon:5759"
/clone_lib="taxon:5759"
/clone_lib="taxon:5759"
/clone_rib="taxon:5759"
/clone_rib="t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  906 bp DNA linear GSS 24-SEP-2001 ENTTS83TF Entamoeba histolytica Sheared DNA Entamoeba histolytica genomic, DNA sequence.
BH153606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Clones are derived from the Entamoeba histolytica HM1: IMSS sheared
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Entamoebidae; Entamoeba.

1 (bases 1 to 906)

Loftus, B., Wang, Z., Van Aken, S. and Fraser, C.

Determination of clone end sequences from Entamoeba histolytica

HMI: MSS sheared DNA library (2001)
1743 gatcctgatgcaggagaggctgtaacagtaccatcaaaggaagcacctgtacaagtacca 1802
                                                                                                                                                                                                                    733 GATGATGATGAAGATGACGATGATGAAGAAGATGATGATGATGACGATGAGAAAGACGAT 674
                                                                                                                                                              2388 gaagaagaagaagaagaaccagtagaggaagaagatgtattacaattagtaataccatcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 192.4; DB 12; Length
Pred. No. 9.2e-16;
0; Mismatches 306; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MD 20850,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Class: shotgun
High quality sequence start: 15
High quality sequence stop: 733.
Location/Qualifiers
1. 906
//organism="Entamoeba histolytica"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Unpublished (2001)
Contact: Brendan J Loftus
Department of Eukaryotic Genomics
The Institute for Genomic Research
9712 Medical Center Dr., Rockville, MD
7713 Medical Center Or., Rockville, MD
7714 Medical Center Or., Rockville, MD
7715 Medical Center Or., Rockville, MD
7717 Medical Center Or., Rockville, MD
7718 Medical Center Or., Rockville, MD
7719 Medical Center O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Seq primer: M13-Forward
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BH153606.1 GI:15725323
                                                                                                                                                                                                                                                                                                                            2448 gaagaagatatacaattag 2466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Entamoeba histolytica.
                                                                                                                                                                                                                                                                                                                                                                               Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5.8%;
ilarity 55.1%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA library
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 376;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BH153606/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                        543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                              ò
                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ŏ
```

```
AL44958.1 GI:12053458
GSS; genome survey sequence.
Takifugu rubripes.
Takifugu rubripes.
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Euteleostei;
Actinopterygii; Neopterygii; Percomorpha; Tetraodontiformes;
Tetraodontidae; Takifugu.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Direct Submission
Submitted (29-SEP-2000) MRC Human Genome Mapping Project Resource
Centre Hinxton, Cambridge, CB10 1SB. UK Email:
biohelp@hqmp.mrc.ac.uk
Vector: pBluescript II KS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1803 gtggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaactccaagaggac 1862
                                                                                                         2103 cctgcagaagtagaagaagtggaagaggtacctgcagaagtagaagaagtggaagaggta 2162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         giggaagaagtaccagaagaagiggaagaggiaccagaagaagiggaagaggiaccagaa 2282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gaagtggaagaagtggaagaagtagaagaagtagaggtaccagcggtagtagaagtagaa 2342
                                                                                                                                     373 GATGATGAAGAAGACGATGATGAAGAAGACGATGATGAAGAAGAT 314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 133 GAAGAAGACGATGAAGAAGACGATGAAGACGATGAAGAAGACGATGAAGAAGACGAT 74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           One pass dye-terminator sequencing of BAC (pBeloBACII) cloned
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FR0048173 501 bp DNA linear GSS 05-, Fugu rubripes GSS sequence, clone 264E22cA9, genomic survey sequence.
                                                    673 GAAGAAGACGATGATGAAGACGATGATGAAGACGATGAAGAAGACGATGAAGAAGAAGACGAT
                                                                                                                                                                                                                   gaaggagaaccaacggaagaagagccaagagaaggaggccaaccagaaggagagtgcca
                                                                                                                                                                                                                                                                  553 GATGATGAAGAAGACGATGATGAAGAAGACGATGAAGAAGACGATGATGAAGAAGAC
                                                                                                                                                                                                                                                                                                                       gaagaagttagaggcaactccagaggacgatttcgaattagaagaaccaacaggagaa
                                                                                                                                                                                                                                                                                                                                                                                                                              2043 gaagtagaagaaaccgtagagggcgaagaactgcagaaggagaagaagtggaagaggta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2163 ccagaagaagtagaaggtacccgcagaagtagaagaagtggaagaggtaccagaagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             The BACs can be obtained from http://www.incyte.com
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             73 GAAGAAGACGATGAAGAAGACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             phagemid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Clark, M.S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AL444958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 14
FR0048173/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
```

```
/db_xref="taxon:73239"
/clone="PYCQA71"
                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           210 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 5.7%;
Best Local Similarity 57.3%;
Matches 371; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       isolated."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           29 c
                                                                                Seq primer: ADF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           356
                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2094
                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Óλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                 ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BM170064 778 bp mRNA .linear EST 04-DEC-2001 EST572587 PyBS Plasmodium yoelii yoelii cDNA clone PYCQA71 5' end,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2326
                                                                                                                                                                                                                                                                                                                             1967 agaaggagaagtgccagaagaagaattagaggcaactccagaggacgatttcgaattaga 2026
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2087 agaagtggaagaggtacctgcagaagtagaagtggaagtggaagaggtacctgcagaagtaga 2146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    agaagtggaagaggtaccagaagaagtagaagaggtacccgcagaagtagaagtgga 2206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2387 agaagaagaagaagaagaaccagtagaggaagaagatgtattacaattagtaataccatc 2446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             434 AGTAGTAGCAGTATTAGTAGTAGTAGTAGCAGTAGTAGTAGTAGTAGTAGTAGTAGC 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                254 AGTAGTAGTAGTAGTAGTAGCAGCAGTAGTAGTAGTAGTAGTAGTAGTAGTAGTAGTAGT 195
                                                                                                                                                                                                                                                                                                                                                                            494 AGTAGTACTACTAGTAGTAGTACTACTAGCAGTAGTAGTAGTAGTAGCAGCAGT 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "" (bases I to 778)

Carlton,J.W., Daly,T.W., Long,C.A., Bergman,L.W., Vaidya,A.B.,
Fraser,C.M. and Carucci,D.J.
Fraser,C.M. and Carucci, Carucci,C.M. and Carucci,C.M. an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Alveolata; Apicomplexa; Haemosporida; Plasmodium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2267 ggaagaggtaccagaaggaagtggaagaagtggaagaagtagaagtagaggtaccagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         agaaccaacaggagaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                374 AGTAGTAGAAGCAGCAGTAGTAGTAGTAGTAGTAGTAGTAGTAGTAGTAGAAGCAGT
                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                Length 501;
                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                             Score 192; DB 12;
Pred. No. 1.2e-15;
0; Mismatches 185;
1..501
/organism="Takifigu rubripes"
/db_xref="taxon:31033"
/clone="264E22cA9"
/clone="11b="BAC 264E22"
2 a 161 c 35 g 173 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Plasmodium yoelii yoelii.
Plasmodium yoelii yoelii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BM170064.1 GI:17303296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Email: carlton@tigr.org
                                                                                                                                                                                                                             5.8%;
ilarity 62.1%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mRNA sequence.
BM170064
                                                                                                                                                                                                                                                       Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2447 ggaagaag 2454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14 AGTAGTAG 7
                                                                                                                                                                                                                                                                                 Matches 303;
                                                                                                                                                                                                                                Query Match
       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                             BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2147
                                                                                                                                                                                                                                                                                                                                                                                                                                2027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 1
BM170064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
```

```
/clone_lbroat*.
/clone_lbroat*.
/clone_lbroat*.
/clone_lbroat*.
/clone_lbroat*.
/lab_lbost**.
/note**.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ä
            Reference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gaagaagaattagaagcaactccagagacgatttcgaattagaagaaccaacaggagaa 2042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gaagaggtacctgcagaagtagaagaagtggaagaggtacctgcagaagtagaagagtg 2153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1923 gaaggagaaccaacggaagaagagccaagagaaggagagagagccaacagaaggagaagtgcca 1982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2043 gaagtagaagaaaccgtagagggcgaagaaactgcagaaggaga-----agaagtg 2093
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2154 gaagaggtaccagaagaagtagaagaggtacccgcagaagtagaagaagaagtggaagaggta 2213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          214 ccagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagag 2273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                264 GAAGTAGAAAATGCAGTAGAAGTAGAAATGTAGCTGAAGTAGAATCCGTAGTAGAAGAA 323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          324 GAAAATGCAGTTAAAGTAGAAAATGTAGCTGAAGTAGAATCCGTAGTAGAAGAAAAT 383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    384 GCAGTTAAAGTAGAATCTGTAGAAGAAGTAGAAAATGTAGGAGAAGACGAAAATGCAGTT 443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         444 GAAGTAGAATCCGTAATAGAAGTAGAAAATGTATTTGAAGTAGAATCCGTAGTAGAAGAA 503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  84 GAAGTAGAATCCGTAATAAAAGTAGAAAATGTATTTGAAGTAGAATCCGTAGTAGAAGTA 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAAAATGCAGTTGAAGTAGAATCAGTAGGAGAAGAAAAATGCAGTAGAAGTAGAAAT 563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gtaccagaagaagtggaagaagtggaagaagtagaagtagaggtaccagcggtagta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      144 GAAAGTGCAGTAGACGTAGAAATGCAGTAGAAGTAGAAAATGCAGTAGACGTAGAAAAT
For clone info, please contact the Malaria Research and Reagent Resource Center, ATCC http://www.malaria.mr4.org/mr4pages/index.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 778;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 191.8; DB 10; Length
Pred. No. 1.2e-15;
0; Mismatches 267; Indels
                                                                                                                                                                                                                                                                                                                                             /organism="Plasmodium yoelii yoelii"
/strain="17XL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          153
```

```
1831 caacggaagaattgatgcaactccaagaggacgatttcgaattagaaggaactgcagaag 1890
                                      767 ATGATGATGATGAATTTGAATTAGAAGACGAAGATGATGATGATGATGATGAGAGACGAAG 708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            barley.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BM374465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                  1951
                                                                                                                                                                                                                                                                                                                                                                                                       467
                                                                                                                                                                                                                                                                                                                                                                                                                                         2191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                              2071
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
                                                                        ò
                                                                                                        Q
                                                                                                                                                ò
                                                                                                                                                                                  g
                                                                                                                                                                                                                      οy
                                                                                                                                                                                                                                                     QQ
                                                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /GL xref="taxon:5759"
/Glone_lib="Entaxon:5759"
/Glone_lib="Entaxon:5759"
/Glone_lib="Vector: pH051; Site_l: Bst I; Constructed at The Institute for Genomic Research (TIGR), Rockville, MD. Genomic DNA isolated from broth cultures of E. histolytica using a method described by Clark and Diamond, C.S. (1993) Entamoba histolytica: a method for isolate identification. Exp. Parasitol.
77:450.). The DNA was mechanically sheared to give a tight size distribution (-2 kb). The v + i method used for the library construction is described in detail in Smith, H.O. and Venter, J.C. (Making small insert libraries for whole genome shotgun sequencing projects. In Genome Sequencing: A Practical Approach, eds. M. Vaudin and B. Barell, Oxford University Press, 1999)."
                                                                                                                                                                                                     DNA linear GSS 14-NOV-2000
Sheared DNA Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Email: bjloftus@tigr.org
Clones are derived from the Entamoeba histolytica HM1:IMSS sheared
                                                                                                                                                                                                                                                                                                                                                                                                       from Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1711 cctttgagccattatttaaaacaaatcctcaaggatcctgatgcaggagaggctgtaacag 1770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    taccatcaaaggaagcacctgtacaagtaccagtggcagtagggcccgcgcaagaagtgc 1830
                   827 TAGATGAAAATGTAGAAATGGAACATGAATACCAGTTAGAAGACAATGAATTAGAAGAAG 768
   gaagaggaagaaccagtagaagaagaagatgtattacaattagtaataccatcggaagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                887 CTTTTATTCATTTGTTTGCATTATTACTAACTGTTCATGCCGAAGAAGATTCCTTTGACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 905;
                                                                        gatatacaattagacaaaccaaagaaagacgaattaggctctggaat 2500
                                                                                             5.7%; Score 190.4; DB 12; Length ilarity 52.8%; Pred. No. 1.7e-15; Conservative 0; Mismatches 366; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                    Unpublished (2000)
Contact: Brendan J Loftus
Contact: Brendan J Loftus
Department of Eukaryotic Genomics
The Institute for Genomic Research
9712 Medical Center Dr., Rockville, MD 20850,
Far: 301 838 0208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /organism="Entamoeba histolytica"
                                                                                                                                                                                                                                                                                                                                                                              Loftus, B., Van Aken, S. and Fraser, C. Determination of clone end sequences HMI:IMSS sheared DNA library
                                                                                                                                                                                                                                                                                                                                              Eukaryota; Entamoebidae; Entamoeba
1 (bases 1 to 905)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          High quality sequence start: 100
High quality sequence stop: 872.
Location/Qualifiers
1. 905
                                                                                                                                                                                                 AZ550256 905 bp
ENTEV58TR Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /strain="HM1:IMSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Seq primer: M13-Reverse
Class: shotgun
                                                                                                                                                                                                                                                                          AZ550256.1 GI:11175557
                                                                                                                                                                                                                                                                                                            Entamoeba histolytica.
Entamoeba histolytica
                                                                                                                                                                                                                                genomic, DNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA library
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S:
Matches 410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                   LOCUS
DEFINITION
                                                                                                                                                                                                                                                       ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                AZ550256/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1771
 2394
                                                                      2454
                                                                                                        684
                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                g
                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
```

```
Hordeum vulgare
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Pooideae
; Triticeae; Hordeum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EBpi03_SQ003_L06_R IGF Barley EBpi03 library Hordeum vulgare cDNA clone EBpi03_SQ003_L06_F, mRNA sequence.

BM374465
EST 10-JAN-2002
EBpi03_SQ003_L06_F, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 (bases 1 to 443)
Hedley, P., Liu, H., Caldwell, D., McCallum, N., Mudie, S., Cardle, L.,
Marsay, L., Machray, G., Marshall, D.F.M. and Waugh, R.
Development of Barley Transcriptome Resources
Unpublished (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2371 cagaagaagtagaagaagaagaagaagaagaagaagaaccagtagaggaagaagatgtattac 2430
2131 tacctgcagaagtagaagtagaagtggaagagtaccagaagaagtagaagaggtacccgcag 2190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    aagtagaggtaccagcggtagtagaagtagaagtaccagcggtagtagaagaagaggtgc 2370
                                  347 AAGATGATGATGAAGACGAAGAAGACGAAGATGATGATTTGAATTAGAAGATGAAG 288
                                                                                                                                                        gagaaggagagccaacagaaggagaagtgccagaagaagaattagaggcaactccagagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    aagtagaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaag
                                                                                                                                                                                                        acgatttcgaattagaagaaccaacaggagaagaagtagaagaaaccgtagagggcgaag
                                                                                                                                                                                                                                                                                                                 aaactgcagaaggagaagaagtggaagaggtacctgcagaagtagaagaagtggaagagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Email: rwaugh@scri.sari.ac.uk
All sequence has a Phred quality score of 20 or over
Seq primer: M13 reverse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Scottish Crop Research Institute
Invergowrie, Dundee, DD2 5DA, Scotland,
Tel: 00 44 1382 56731.
Fax: 00 44 1382 562426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Contact: Waugh R
Unit of Genomics
```

```
/grann="Maillands"
/db_xref="taxon:5759"
/clone_lib="Entamoeba histolytica Sheared DNA"
/clone_lib="Vector: pH051; Site_l: Bst 1; Constructed at The
/note="Vector: pH051; Site_l: Bst 1; Constructed at The
Institute for Genomic Research (TIGR), Rockville, MD.
Genomic DNA isolated from broth cultures of E. histolyt
using a method described by Clark and Diamond (Clark,
C.G., and Diamond, L.S. (1993) Entamoeba histolytica: a
method for isolate identification. Exp. Parasitol.
77:450.). The DNA was mechanically sheared to give a
tight size distribution (-2 kb). The v + i method used for
the library construction is described in detail in Smith,
H.O. and Venter, J.C. (Making small insert libraries for
whole genome shotgun sequencing projects. In Genome
Sequencing: A Practical Approach, eds. M. Vaudin and B.
Barell, Oxford University Press, 1999)."
                                               Department of Eukaryotic Genomics
The Institute for Genomic Research
9712 Medical Center Dr., Rockville, MD 20850, USA
Tel: 301 838 9340
Tel: 301 838 343 345
Tel: bjloftus@tigr.org
Clones are derived from the Entamoeba histolytica HM1:IMSS sheared
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1906 aattagtattagaaggagaaggagaaccaacggaagaagaagccaagagaaggagagaccaa 1965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1966 cagaaggagaagtgccagaagaagaattagaggcaactccagaggacgatttcgaattag 2025
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2026 aagaaccaacaggagaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggag 2085
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2086 aagaagtggaagaggtacctgcagaagtagaagaagtggaagaggtacctgcagaagtag 2145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2146 aagaagtggaagaggtaccagaagaagtagaagaggtacccgcagaagtagaagaagtgg 2205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2206 aagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaagaag 2265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2266 tggaagaggtaccagaagaagtggaagtagaagtggaagaagtagaagtagaagtagaggtaccag 2325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 849;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 186.8; DB 12; Length
Pred. No. 4.9e-15;
0; Mismatches 332; Indels
                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
1. .849
/organism="Entamoeba histolytica"
                                                                                                                                                                                                                                                                                                                     High quality sequence start: 26 High quality sequence stop: 796
                                                                                                                                                                                                                                                                                                                                                                                                                                                           /strain-"HM1:IMSS
                           Contact: Brendan J Loftus
                                                                                                                                                                                                                                          DNA library
Seq primer: M13-Forward
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity 53.8%;
  Unpublished (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                               Class: shotgun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   386:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
  JOURNAL
                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                            /organism="Hordeum vulgare"
/cultivat="Optic"
/db_xref="taxon:4513"
/db_xref="taxon:4513"
/clone="EBp101_SQ003_L06"
/clone="lb="liGF Barley EBp103 library"
/clone=lb="liGF Barley EBp103 library"
/tissue_type="Pistils"
/tissue_type="Pistils"
/dev_stage="Pistils"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AZ546009 849 bp DNA linear GSS 14-NOV-2000
ENTFW53TF Entamoeba histolytica Sheared DNA Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota: Entamoebidae; Entamoeba.

1 (bases 1 to 849)

Loftus, B., Van Aken, S. and Fraser, C.

Determination of clone end sequences from Entamoeba histolytica
HMI:IMSS sheared DNA library
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                acctgcagaagtagaagaagtggaaggtacctgcagaagtagaagtagaagtggaagagt 2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2402 agaaccagtagaggaagaagatgtattacaattagtaataccatcggaagaagatataca 2461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2042 agaagtagaagaaaccgtagagggcgaagaactgcagaaggagaagaagtggaagaggt 2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATAACAATGAGGATAATAATAAGAAGAAGAATAAGAAGCAGAAGAAGAAGAAGAATAAGAAGA 367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     agtggaagaggtaccagaagaagtggaagaggtaccagaagagtggaagaggtaccaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          accagaagaagtagaagaggtacccgcagaagtagaagaagtggaagaggtaccagaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           agaagtggaagaagtggaagaagtagaagtagaagtagaggtaccagcggtagtagaagtaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2342 agtaccagcggtagtagaagaagaggtgccagaagaagtagaagaagaagaagaagaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 10; Length 443;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5.7%; Score 189.4; DB 10;
66.2%; Pred. No. 2.8e-15;
tive 0; Mismatches 146;
                                                                                                                                                                                                                                                                                                                                                                                                                               Function) project."
8 c 126 q
  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                        126 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AZ546009.1 GI:11167130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     genomic, DNA sequence.
AZ546009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Entamoeba histolytica.
Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2462 attagacaaaccaaa 2476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGAAGAAGAAGA 442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              288;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local
                           source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 18
AZ546009/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                     BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KEYWORDS
SOURCE
PEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
```

ö

à 셤 ò 셤 à 셤 δ g

```
Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 20
AZ337339/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1930
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOURCE
                                                                                                                                                                                                                                                                                                        ολ
                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /clone_itb="programs"
/clone_itb="programs"
/clone_itb="programs"
/lab_host="s. coli XL-1 Blue"
/lab_host="s. coli XL-1 Blue"
/note="Vector: pAD-GAL4" At 20-25% parasitemia, blood was
/note="Vector: pAD-GAL4" At 20-25% parasitemia, blood was
collected from BALBACB9U mice infected with Py17XL
parasites, and leukccytes removed by passage over
microcrystalline cellulose collumns. Total RNA was
isolated using the guanidinium isothiocyanate method, and
mRNA isolated using oligo(dT) cellulose chromatography.
First strand cDNA synthesis was completed using a 50-base
primer and reverse transcriptase in the presence of
5-methyl dCTP. After second strand synthesis, uneven
termini were treated with Pfu DNA polymerase and EcoRI
adaptors ligated to the blunt ends. The sample was cleaved
with XhoI and separated on a Sephacryl S-500 column.
Size-fractionated cDNA was precipitated and ligated to
HybrizAP arms directionally using EcoRI-XhoI cleaved arms.
After packaging, the phagemid vector (pAD-GAL4) was
excised from the HybrizAP vector and plasmid DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BM170799 715 bp mRNA linear EST 04-DEC-2001
EST573322 PyBS Plasmodium yoelii yoelii cDNA clone PYCQL33 5' end,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         For clone info, please contact the Malaria Research and Reference Reagent Resource Center, ATCC http://www.malaria.mr4.org/mr4pages/index.html
                                                                                                                            2386 aagaagaagaagaagaagaaccagtagaggaagaagatgtattacaattagtaataccat 2445
2326 cggtagtagaagtagaagtaccagcggtagaagaagaagaggtgccagaagaagtagaag 2385
                                                                                                                                                                                                                                                                  2446 cggaagaagatatacaattagacaaaccaaagaaagacgaattaggctctggaatttat 2505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Entanguam your forth for
                                                                                                                                                                         2506 ctatcatcgacatgcactaccaagacgttccaaaggaatttatggaagaagaagaaga 2563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                102 ATGAAGATGATGAAGATGAAGATGACGAAGATGTTGATGAAGATGACGAAGA 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Plasmodium yoelii yoelii"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               715 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /db_xref="taxon:73239"
/clone="PYCQL33"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               173 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Plasmodium yoelii yoelii. Plasmodium yoelii yoelii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Email: carlton@tigr.org
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /strain="17XL"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BM170799.1 GI:17304031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                isolated."
86 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 primer: ADF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    mRNA sequence.
BM170799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BM170799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 1
BM170799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
```

```
3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GSS 29-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mus musculus:
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostom1;
Mammalia; Eutheria; Rodentia; Sciurognath1; Muridae; Murinae; Mus.
1 (bases 1 to 650)
Dunn, D., Aoyagi, A., Barber, M., Beacorn, T., Duval, B., Hamil, C., Islam, H., Longacre, S., Mahmoud, M., Meenen, E., Pedersen, T., Reilly M., Rose, M., Rose, R., Stokes, R., Tingey, A., von Niederhausern, A., Mouse whole genome scaffolding with paired end reads from 10kb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A2337339 650 bp DNA linear GSS 29-SEP-200
1M0068B03F Mouse 10kb plasmid UUGC1M library Mus musculus genomic
clone UUGC1M0068B03 F, DNA sequence.
                                                                                                                              1750 atgcaggagaggctgtaacagtaccatcaaaggaagcacctgtacaagtaccagtggcag 1809
                                                                                                                                                                                                                                                             1810 tagggcccgcgcaagaagtgccaacggaagaattgatgcaactccaagaggacgatttcg 1869
                                                                                                                                                                                                                                                                                                                                                                                               aattagaaggaactgcagaagctccagaggaaggagaattagtattagaaggagagag 1929
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            aagaattagaggcaactccagaggacgatttcgaa-----ttagaagaaccaacag 2037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gagaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggagagaagtggaag 2097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      aggtaccagaagaagtagaagatacccgcagaagtagaagtagaagtggaagaggtaccag 2217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   aagaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtac 2277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cagaagaagtggaagaagtggaagaagtagaagaagtagaggtaccagcggtagtagaag 2337
| |||||| ||| ||| ||| || || || || || ||| || || || || || || ||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tagaagtaccagcggtagtagaagaagaggtgccagaagaagtagaagaagaagaag 2397
                                                                                                                                                                                                                                                                                                                                                                                                                              AAGAAGAAGAATCAACTGAAGAAAAAGAAATTGAACATTGAGCAAGTAGAACAACCTG 313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                374 AAGAAATTGAACAACCTGAACAAGTAGAGGTAGAACATGTTGAAGAAGTAGAATCTGTTG 433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     434 AACAACCTGAACAATAGAAGTTGTTGGAGAACAAGAAATTGAACAACCTGAACAGGTAG 493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         554 AAATAGAAGTGGAACAAGTTGAACAACCTGAACAAGTAGAAGTAGAAGTTGAACAAC 613
                                                                                                                                                                                                                                                                                                                          74 TAGAACCTGTTGAACAAGTAGAATCAGTTGAAGAAGAATCTATTGAAGGAGATTCGGTTG 133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           194 CAGATGAAGAAGAAGAATCAACTGACGAAGAAGAATCAACTGACGAAGAAGAATCAGATG 253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              614 CTGAGCCAATAGAAGTAGAACAGGGTGAAGAAGTAGAACAGGTTGAAGAAGTAGAACATG 673
                                                                                                                                                                                        14 ATGTTGAACAATATGAACCAGTAGAAGTAGAACATGTTGAACAATATGAACCAGTAGAAG 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aaccaacggaagaagagccaa---gagaaggagagccaacagaaggagaagtgccagaag
   Length 715;
   DB 10;
Score 185.8; DE
Pred. No. 7e-15;
); Mismatches 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2398 aggaagaaccagtagaggaagaagatgta 2426
||| ||| | | | | | | | | | | |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         674 TIGAACAACCIGAACAGGIAGAAGTAGAA 702
                                                             .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AZ337339
AZ337339.1 GI:10407536
56.68;
                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               plasmid inserts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    house mouse.
                              Best_Local Similarity
Matches 390; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
```

```
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /strain="C57BL/6J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /lab_host="DH10B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AZ113646
AZ113646.1 GI:7773245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (bases 1 to 421)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Class: BAC ends
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          house mouse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GSS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                               AZ113646/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOURCE
                                                                      셤
                                                                                                                                                              g
                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (http://www.jax.org/resources/documents/dnares/). The DNA was hydrodynamically sheared by repeated passage through a 0.005 inch orifice at constant velocity. The sheared DNA was blunt end-repaired with T4 DNA polymerase and T4 polymucleotide kinase. Adaptor oligonucleotides were ligated to the blunt ends in high molar excess. The adaptored DNA was purified and size-selected for a 9.5 to 10.5 kb range using preparative agarose gel electrophoresis. Vector DNA was prepared from a derivative of pwD42 (qilq732114) iplar129072.1), a copy-number inducible derivative of plasmid R1. The vector was ligated with adaptors complementary to the insert adaptors and purified. The sheared, adaptored mouse DNA was annealed to adaptored vector DNA, and transformed into chemically-completent. E. coli XL10-Gold (Stratagene) cells and selected for ampicillin resistance."
                                                                                               ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ô
                                                                                                                                                                                                                                                                                                                                                                                                        /strain="C57BL/6J"
/db_xref="taxon:10090"
/clone="ludC1M006BB03"
/clone=lib="Mouse 10kb plasmid UUGC1M library"
/sex="Male"
/lab_house. Coli strain XL10-Gold, Tl-resistant, F-"
/note="Vector: PWD42Dry; Purified genomic DNA from M.
musculus C57BL/6J_(male) was obtained from the Jackson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1874 agaaggaactgcagaagctccagaggaaggagaattagtattagaaggagaaggagaacc 1933
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1934 aacggaagaagagccaagagaaggaggccaacagaaggagaagtgccagaagaagaatt 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2054 aaccgtagaggcgaagaaactgcagaaggagaagaagaagtggaagaggtacctgcagaagt 2113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2114 agaagaagtggaagaggtacctgcagaagtagaagagggaagaggtaccagaagaagt 2173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2174 agaagaggtacccgcagaagtagaagtggaagaggtaccagaagaggtggaagaggt 2233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1994 agaggcaactccagaggacgatttcgaattagaagaaccaacaggagaagtagaaga 2053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         469 AGGAGGAGCAGGAGCAGCAGCAGCAGGAGCAGGAGCAGGAGCAGGAGCAGGAGC 410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   649 AGCAGCAGGAGCAGCAGCAGCAGGAGCAGCAGGAGGAGCAGTAGCAGCAGCAGGAGC 590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              589 AGGAGCAGCAGCAGCAGGAGCAGGAGCAGGAGTAGCAGCAGCAGCAGGAGCAGGAGT 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            409 AGGAGGAGCAGGAGCAGGAGCAGGAGTAGCAGGAGCAGGAGCAGGAGCAGGAGCAGG 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                               S. 2030 E.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ouery Match 5.5%; Score 184.2; DB 12; Length 650; Best Local Similarity 57.3%; Pred. No. 1.2e-14; Matches 333; Conservative 0; Mismatches 248; Indels 0;
               Contact: Robert B. Weiss
University of Utah Genome Center
University of Utah
Rm. 30 blommedical Polymers Research Bldg., 20
84112, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Laboratory Mouse DNA Resource
                                                                                                                                                                                          Email: ddunn@genetics.utah.edu
Insert Length: 10000 Std Error: 0.00
Plate: 0068 row: B column: 03
                                                                                                                                                                                                                                                             Seq primer: CGTTGTAAAACGACGGCCAGT
Class: plasmid ends
                                                                                                                                                                                                                                                                                                                                                                                      /organism="Mus musculus"
                                                                                                                                                                                                                                                                                                             High quality sequence stop: 650.
Location/Qualifiers
                                                                                                                                          Tel: 801 585 5606
Fax: 801 585 7177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1
                                                                                                                                                                                                                                                                                                                                                                  source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BASE COUNT
ORIGIN
JOURNAL
                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
```

ð

ò g ò

```
AZ113646 421D ANAY-2000 AZ1 ANAY-2000 RPCI-23-447DZ ANAY-2000 RPCI-23-447DZ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Judacas I Lo 421, Midran W., Feldblyum, T., Malek, J., Shatsman, S., Akinret Jabo, S., Nierman, W., Feldblyum, T., Malek, J., Shatsman, S., Akinret B., Levins, M., Mcgann, S., Tsegaye, G., Geer, K., Krol, M., de Jong, P. and Fraser, C.M.
Mouse BAC End Sequences from Library RPCI-23
Unpublished (1999)
Other GSSs: RPCI-23-447D2.TV
Contact: Shaying Zhao
Contact: Shaying Zhao
Contact: Shaying Research
Frail Institute for Genomic Research
Frail Medical Center Dr., Rockville, MD 20850, USA
Fex: 301 838 0200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Email: szhaoétigr.org

Clones are derived from the mouse BAC library RPCI-23. For BAC

Library availability, please contact Pieter de Jong

(pieter@dejong.med.buffalo.edu). Clones may be purchased from

BACPAC Resources (http://bacpac.med.buffalo.edu/orderingframe.htm)

or from Resea ch Genetics (info@resgen.com). BAC end page:

http://www.tigr.org/tdb/bac_ends/mouse/bac_end_intro.html

Plate: 447 row: D column: 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                  2354 agtagaagaaggtgccagaagaagtagaagaagaagaagaagaagaagaaccagtaga 2413
2234 accagaagaagtggaagagtaccagaagaagtggaagaggtaccagaagaagtggaaga 2293
                                                                                                                       2294 agtggaagaagtagaagtagagtagaggtaccagcggtagtagaagtagaagtaccagcggt 2353
                                                                                                                                                                                   169 AGGAGCAGGAGGAGCAGCAGGAGCAGGAGCAGGAGGAGCAGGAGCAGGAGCAGGAGT 110
                                                        2414 ggaagaagatgtattacaattagtaataccatcggaagaag 2454
                                                                                                                                                                                                                                                                                                                                                                                                                                         109 AGGAGGAGGAGCAGGAGCAGGAGCAGGAGCAGGAGCAG 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1. .421
/organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /db_xref="taxon:10090"
/clone="RPCI-23-447D2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /clone_lib="RPCI-23"
/sex="Female"
```

```
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A2460541 596 bp DNA linear GSS 04-0CT-2000 1M0265124R Mouse 10kb plasmid UUGCIM library Mus musculus genomic clone UUGCIM0265124 R, DNA sequence.
                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ľ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mus musculus

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

1 (Dases 1 to 596)

Dunn, D., Aoyagi, A., Barber, M., Beacorn, T., Duval, B., Hamil, C.,

Islam, H., Longacre, S., Mahmoud, M., Meenen, E., Pedersen, T., Reilly
and Wright, D., Weiss, R., Stokes, R., Tingey, A., von Niederhausern, A.

Mouse whole genome scaffolding with paired end reads from 10kb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S. 2030 E., SLC,
                                                                                                                                             2039 agaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggagaagaagtggaaga 2098
                                                                                                                                                                                                                                                                                            2219 agaagtggaagaggtaccagaagaagtggaagagtaccagaagaagtggaagaggtacc 2278
                                                                                                                                                                                                                                                                                                                                                                                                                                         2339 agaagtaccagcggtagtagaagaagaggtgccagaagaagtagaagaagaagaagaagaaga 2398
                                                                                                                                                                                                                       ggtaccagaagaagtagaaggtacccgcagaagtagaagtagaagtggaagaggtaccaga 2218
                                                                                                                                                                                                                                                                                                                                                                  2279 agaagaagtggaagaagtggaagaagtagaagtagaagtagaggtaccagcggtagtagaagt 2338
                                                                                                                                                                                                                                          417 AGACGACGGGAAGACGAAGTCGACGCCGACGAAGAAGAAGAAGAAGCAGAAGAAGA 358
                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                /strain="C57BL/6J"
/db_xref="taxon:10090"
/clone="UUGC1M0265124"
/clone_llb="Mouse 10kb plasmid UUGC1M library"
   Length 421;
5.5%; Score 182.2; DB 12; Length 68.9%; Pred. No. 2.4e-14; ive 0; Mismatches 113; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          308, Biomedical Polymers Research Bldg., 20.2, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Email: ddunn@genetics.utah.edu
Insert Length: 10000 Std Error: 0.00
Plate: 0265 row: I column: 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Seq primer: CACACAGGAAACAGCTATGACC Class: plasmid ends
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1. .596 // /organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Unpublished (2000)
Contact: Robert B. Weiss
University of Utah Genome Center
University of Utah
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    High quality sequence stop: 596.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AZ460541
AZ460541.1 GI:10618666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 plasmid ends
                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Tel: 801 585 5606
Fax: 801 585 7177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          house mouse.
                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2399 gga 2401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Email:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Plate:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAA 55
                                    250;
 Query Match
Best Local 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM
                                                                                                                                                                                                                     2159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
AUTHORS
                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AZ460541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                         õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                             Óγ
                                                                                                                                                                               쉽
                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                          á
                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
```

÷

```
(http://www.jax.org/resources/documents/dnares/). The DNA was hydrodynamically sheared by repeated passage through a 0.005 inch orifice at constant velocity. The sheared DNA was blunt end-repaired with T4 DNA polymerase and T4 polymuclectide kinase. Adaptor oligonuclectides were ligated to the blunt ends in high molar excess. The adaptored DNA was purified and size-selected for a 9.5 to 10.5 kb range using preparative agarose gel electrophoresis. Vector DNA was prepared from a derivative of pMD42 (gil4732114) [pl]ABT29072.1], a copy-number inducible derivative of plasmid R1. The vector was ligated with adaptors complementary to the insert adaptors and purified. The sheared, adaptored mouse DNA was annealed to adaptored vector DNA, and transformed into chemically-competent E. coli XL10-Gold (Stratagene) cells and selected for ampleillin resistance."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FR0048073 494 bp DNA linear GSS 05-JAN-2001
Fugu rubripes GSS sequence, clone 263K15bD8, genomic survey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bukaryota. Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Actinopterygii; Neopterygii; Teleostei; Buteleostei; Neoteleostei;
Acanthomorpha; Acanthopterygii; Percomorpha; Tetraodontiformes;
Tetraodontidae; Takifugu.
1 (bases 1 to 494)
/lab_host="E. Coli strain XLIO-Gold, T1-resistant, F-"/note="Vector: PWD42nv; Purified genomic DNA from M. musculus C57BL/6J (male) was obtained from the Jackson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              aagtagaagtaccagcggtagtagtagaagaaggtgccagaagaagtagaagaagaaga 2394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2095 aagaaggtacctgcagaagtagaagaagtggaagaggtacctgcagaagtagaagtgg 2,54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2036 aggagaagaagtagaagaaaccgtag-agggcgaagaaactgcagaaggagaagtag 2094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2215 cagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagagg 2274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2155 aagaggtaccagaagaagtagaagaggtacccgcagaagtagaagaagtggaagaggtac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 12; Length 596;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 181.2; DB 12;
Pred. No. 2.9e-14;
0; Mismatches 108;
                                                                     Laboratory Mouse DNA Resource
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AL44858.1 GI:12052694
GSS; genome survey sequence.
Takifugu rubripes.
Takifugu rubripes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 5.4%;
Best Local Similarity 70.2%;
Matches 257; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sequence.
AL444858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       aagagg 2400
                                                                                                                                                                                                                                                                                                                                                                                                                                                    315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     362 AAGAGG 367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FR0048073/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                    BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
```

```
Entamoeba histolytica HM1:IMSS sheared
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tacctgcagaagtagaagtggaagaggtacctgcagaagtagaagaagtggaagagg 2160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1741 aggatcctgatgcaggagaggctgtaacagtaccatcaaaggaagcacctgtacaagtac 1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  caging caging and good considering and considering contractions and contractions and contractions of the contraction of the con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1921 gagaaggagaaccaacggaagaagagccaagagaaggaaggagccaaccagaaggagagagtgc 1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          aagaagtagaagaaaccgtagagggcgaagaactgcagaaggagaagaagtggaagagg 2100
                                                                           from Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 536 AAGAAGACGATGAAGAAGACGATGAAGAAGAAGACGATGAAGAAGACGATG 477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 656 AAGATGATGATGAAGAAGATGATGATGAAGATGACGATGATGATGAAGATGACGATGATG 597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  596 ATGAAGAAGATGATGACGATGAAGAGACGATGAAGAGAAGACGATGAAGAAGACGATG 537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            476 AAGAAGACGATGATGAAGAAGGACGATGATGAATTTGAATTAGAAGACGATGATGAAGAAG 417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            416 ACGATGATGAAGAAGACGATGATGAAGAAGACGATGATGAAGAAGACGATGATGAAGAAG 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             776 ATGATGATGCAGATGATTTGAATTAGAAGACGATGATGAAGATGATGATGAAGAG 717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cagaagaagtaattagaggcaactccagaggacgatttcgaattagaagaaccaacaggag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 816;
                                                                                                                                                                                                                                USA
                                                                                                                                                                                                                              MD 20850,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5.4%; Score 180.4; DB 12;
52.7%; Pred. No. 3.3e-14;
tive 0; Mismatches 351;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1. .816
/organism-"Entamoeba histolytica"
                                                                                                                     Unpublished (2000)
Contact: Brendan J Loftus
Department of Eukaryotic Genomics
The Institute for Genomic Research
9712 Medical Center Dr., Rockville, MD
Tel: 301 838 0208
                       1 (bases 1 to 816)
Loftus, B., Van Aken, S. and Fraser, C.
Determination of clone end sequences
HMI: IMSS sheared DNA library
     Eukaryota; Entamoebidae; Entamoeba
                                                                                                                                                                                                                                                                                                                                                                                                  Class: shotgun
High quality sequence start: 36
High quality sequence stop: 816.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                  Email: bjloftus@tigr.org
Clones are derived from the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /strain="HM1:IMSS'
                                                                                                                                                                                                                                                                                                                                                                             Seq primer: M13-Reverse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                      DNA library
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               391;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2101
                                                      AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1981
                            REFERENCE
                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                     COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A2535744 816 bp DNA linear GSS 03-NOV-2000 ENTCQ25TR Entamoeba histolytica Sheared DNA Entamoeba histolytica
                    Direct Submission
Submitted (29-58P-2000) MRC Human Genome Mapping Project Resource
Centre Hinxton, Cambridge, CB10 1SB. UK Email:
biohelp@Hgmp.mrc.ac.uk
Vector: pBluescript II KS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                agaagtagaagaagaagaagaagaagaaccagtagaagaagaagatgtattacaatt 2434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2015 tttcgaattagaagaaccaacaggagaagaagtagaagaaaccgtagaggggaagaac 2074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              agaagaagtggaagataccagaagaagtggaagagtaccagaagaagtggaagagt 2254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 accagaagaagtggaagaggtaccagaagaagtggaagaagtggaagaagaagtagaagaagt 2314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  agaggtaccagcggtagtagaagtagaagtaccagcggtagtagaagaagaagggtgccaga 2374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           aggagagccaacagaaggagaagtgccagaagaagaattagaggcaactccagaggacga 2014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tgcagaaggagaagtggaagagtacctgcagaagtagaagtggaagtggaagagtacc 2134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    314 AGTAGTAGCAGTAGTAGTAGCAGTAGCAGTAGTAGTAGTAGTAGTAGTAGTAGTAGTAGTAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             494 AGTAGTAGCAGTAGTAGTAGTAGTAGCAGTAGTAGTAGTAGTAGTAGTAGTAGTAGTAGT 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           434 AGCAGCAGTAGTAGTAGTAGTAGTAGTAGTAGTAGCAGTAGTAGTAGTAGTAGTAGTAGCAGT 375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              134 AGCAGTAGTAGAAGCAGCCGCAGTAGTAGTAGCAGTCGTCGTCGCAGTAGTCGACGCAGC 75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DESCR:
One pass dye-terminator sequencing of BAC (pBeloBAČII) cloned
genomic sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tgcagaagtagaagtggaagaggtaccagaagaagtagaagaggtacccgcagaagt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 494;
                                                                                                                                                                                                                                                                        The BACs can be obtained from http://www.incyte.com
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 180.4; DB 12;
Pred. No. 3.9e-14;
0; Mismatches 191;
                                                                                                                                                                                                                                                                                                                                                 /organism="Takifugu rubripes"
/db_xref="taxon:31033"
/clone="263K15bD8"
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ب
                                                                                                                                                                                                                                                                                                                                                                                                                          /clone_lib="BAC 263K15"
163 c 45 g 19
                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AZ535744
AZ535744.1 GI:11092691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Entamoeba histolytica.
Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    genomic, DNA sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 agtaat 2440
                                                                                                                                                                                                                                                                                                                                                                                                                                                    128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AGTAGT 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches 295;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GSS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                 BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A2535744/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VERSION
KEYWORDS
SOURCE
AUTHORS
                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14
                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                          COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rocus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        å
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
```

ö

ð 쉽 ò g ò g ò g ò g ò q

```
Query Match 5.3
Best Local Similarity 54.6
Matches 356; Conservative
   415 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AZ683582
LOCUS
DEFINITION
   BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                        1957
                                                                                                                                                                                                                                                                                                                                                                                       395
                                                                                                                                                                                                                                                                                                                                                                                                                   2137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMMENT
                                                                                                                                                   셤
                                                                                                                                                                                ò
                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                          δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                   ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           οq
                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                              οy
                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GSS 27-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Clones are derived from the Entamoeba histolytica HM1:IMSS sheared MA1 library
Seq primer: M13-Forward
Class: shotgun
                                                                                                                                                                                                                                                                                                                                                                                                   BH149983 976 bp DNA linear GSS 27-AUG-200
ENTQD93TF Entamoeba histolytica Sheared DNA Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Entamoeba histolytica
Eukaryota; Entamoebidae; Entamoeba.

1 (bases 1 to 976)
Loftus, B., Wang, Z., Van Aken, S. and Fraser, C.
Determination of clone end sequences from Entamoeba histolytica
HMI:MSS sheared DNA library (2001)
                                                                                                                    2281 aagaagtggaagaagtggaagaagtagaagtagaagtagaggtaccagcggtagtagaagtag 2340
                                                                                                                                                                           2341 aagtaccagcggtagtagtagaagaagaggtgccagaagaagtagaagaagaagaagaagagg 2400
                                                                                                                                                                                                                                       2401 aagaaccagtagaggaagaagatgtattacaattagtaataccatcggaagaagatatac 2460
                                                          2221 aagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtaccag 2280
                                                                                                                                                                                               296 ACGATGATGAAGAAGACGATGATGATGAAGAAGACGATGATGAAGAAGAGGACGATGATGAAGAAG 237
                                                                                                                                                236 ACGATGATGAAGAAGACGATGATGAAGAAGATGATGAAGAAGATGAAGATGATGAAG 177
                           356 ACGATGATGAAGAAGACGATGATGAAGAAGACGATGAAGAAGAAGAAGAAGAAG 297
                                                                                                                                                                                                                                                        taccagaagaagtagaagaggtacccgcagaagtagaagagtggaagaggtaccagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unpublished (2001)
Contact: Brendan J Loftus
Department of Eukaryotic Genomics
The Institute for Genomic Research
9712 Medical Center Dr., Rockville, MD 20850, USA
Tel: 301 838 0208
Fax: 301 838 3543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1. .976
/organism="Entamoeba histolytica"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     High quality sequence start: 38
High quality sequence stop: 740.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /strain="HM1:IMSS'
                                                                                                                                                                                                                                                                                                2461 aattagacaaaccaaagaaaga 2482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Email: bjloftus@tigr.org
                                                                                                                                                                                                                                                                                                                                                                                                                               genomic, DNA sequence.
BH149983
BH149983.1 GI:15311165
                                                                                                                                                                                                                                                                                                                           AAGAAGACGATGAAGAGACGA 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Entamoeba histolytica.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                                                               DEFINITION
2161
                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                           96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                     BH149983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                   LOCUS
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA linear GSS 14-DEC-2000
Sheared DNA Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cagaagtagaagaagtggaagaggtaccagaagtagaagaagtacccgcagaagtag 2196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           aagaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtac 2256
                                                                                                                                                                                                                                   1837 aagaattgatgcaactccaagaggacgatttcgaattagaaggaactgcagaagctccag 1896
                                                                                                                                                                                                                                                                                                                                         1897 aggaaaggagaattagtattagaaggagaaggagaaccaacggaagaagaagagccaagagaag 1956
                                                                                                                                                                                                                                                                                                                                                                                                                                            gagagccaacagaaggagaagtgccagaagaagaattagaggcaactccagaggacgatt 2016
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2017 togaattagaagaaccaacaggagaagaagtagaagaaaccgtagagggggaagaaactg 2076
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2077 cagaaggagaagaagtggaagaggtacctgcagaagtagaagaagtggaagaggtacctg 2136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aggtaccagcggtagtagaagtagaagtaccagcggtagtagaagaagaaggtgccagaag 2376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    aagtagaagaagaagaagaagaagaagccagtagaggaagaagatgtattacaattag 2436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      from Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                    455 ACGATGATGAAGAAGACGATGATGATGAAGACGATGATGAAGAAGATGATGATGAAGATG 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         515 ATGATGATGAAGATGAATTTGAATTAGAAGACGATGATGAAGATGATGAAGAAG 574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  335 ACGATGATGAAGAGACGATGATGAAGAGACGATGATGAAGAAGAGGACGATGATGAAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2257 cagaagaagtggaagaggtaccagaagaagtggaagaagtggaagaagtagaagtag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 635 AAGATGATGAAGAAGATGATGATGATGATGACGATGATGATGAAGATGACGATGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 976;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAGATGACGATCGAGAGACGATTGAGAGGACGATGAAGATGACGATGAAGT
                                                                                                                                                                                   Indels
Barell, Oxford University Press, 1999). 63 c 280 \mathrm{~g} 218 \mathrm{~t}
                                                                                                                           Score 178.4; DB 12;
Pred. No. 5.7e-14;
0; Mismatches 296; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Entamoeba histolytica.
Entamoeba histolytica
Entamoeba histolytica
Entamoeba.
1 (bases 1 to 891).
Loftus, B., Van Aken, S. and Fraser, C.
Determination of Clone end sequences
HMI:IMSS sheared DNA library
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Unpublished (2000)
Contact: Brendan J Loftus
Department of Eukaryotic Genomics
The Institute for Genomic Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AZ683582 891 bp
ENTKK47TR Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AZ683582.1 GI:11820728
GSS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                genomic, DNA sequence.
A2683582
                                                                                                                             5.3%;
                                                                                                                                                        54.68;
```

657

```
2330 agtagaagtagaagtaccagcggtagtagaagaagaaggtgccagaagaagtagaagaaga 2389
                                                                    2390 agaagaagaagaaccagtagaggaagaagatgtattacaattagtaataccatcgga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /strain="HMl:IMSS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA library
Seg primer: M13-Forward
                                                                                                                                                                                                                              genomic, DNA sequence.
BH148582
BH148582.1 GI:15308029
                                                                                                                                                                                                                                                                                      Entamoeba histolytica.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5.3%;
ilarity 55.3%;
Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Class: shotgun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                           2450 agaaga 2455
                                                                                                                                    718 TGAAGA 723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            363;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Loca
Matches
                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BASE COUNT
                                                                                                                                                                                                                                              ACCESSION
                                                                                                                                                                            RESULT 2
BH148582
                                                                                                                                                                                                                                                         VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                        TITLE
                                                                                                                                                                                                                                                                                                                                                                                                   COMMENT
                                                                                                                                                                                                                                                                                      SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                      g
                                                                               g
                                                                                                        ò
                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                    ò
                                                                                                                                                                                 Email: bjloftus@tigr.org
Clones are derived from the Entamoeba histolytica HM1:IMSS sheared
NMA library
Seq primer: M13-Reverse
Class: shotgun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    agtggaagaggtacctgcagaagtagaagagtggaagaggtacctgcagaagtagaaga 2149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtgga 2269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      agaggtaccagaaggaggtggaagtggaagtagaagtagaagtagaggtaccagcggt 2329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1790 tgtacaagtaccagtggcagtagggcccgcgcaagaagtgccaacggaagaattgatgca 1849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1970 aggagaagtgccagaagaagaattagaggcaactccagaggacgatttcgaattagaaga 2029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         agtggaagaggtaccagaaggaagtagaaggtacccgcagaagtagaagaagtggaaga 2209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  298 CGATGAAGAAGACGATGAAGACGATGAAGAAGACGATGAAGAAGACGATGAAGA 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGACGATGATGAATTTGAATTAGAAGACGATGATGAAGAAGAAGAAGATGAAGAAGAAGAAGA 417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   58 TGAAGATGATGAATTTGAATTAGAAGACGATGATGAAGATGATGATGAAGAAGATGATGA 117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGATGATGATGACGATGAAGACGATGAAGAAGACGATGAAGAAGACGATGAAGAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           178 TGATGAAGAAGATGATGATGAAGATGACGATGATGATGATGATGACGATGATGATGAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2030 accaacaggagagaagtagaagaaaccgtagagggcgaagaaactgcagaagaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         478 TGATGAAGAAGACGATGATGAAGAAGACGATGATGAAGAAGACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 178; DB 12; Length 891;
Pred. No. 6.6e-14;
0; Mismatches 305; Indels
Dr., Rockville, MD 20850, USA
                                                                                                                                                             /organism="Entamoeba histolytica"
/strain="HM1:IMSS"
                                                                                                      High quality sequence start: 16
High quality sequence stop: 694.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                   5.3%;
 Medical Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 5.3
Best Local Similarity 54.2
Matches 361; Conservative
                           3543
                                                                                                                                                   .891
            301 838 (
301 838 3
                                                                                                                                                                                                                                                                                                                                                                                                400
                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                                              BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2150
                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
```

```
/db_xrefe="taxxon:5759"
/db_xrefe="taxxon:5759"
/clone_lib="Entamoeba histolytica Sheared DNA"
/clone_lib="bentamoeba histolytica Sheared DNA"
/note="vector: pHOSI; Site_l: BST 1; Constructed at The
Institute for Genomic Research (TIGR), Rockville, MD.
Genomic DNA isolated from broth cultures of E. histolyt
using a method described by Clark and Diamond (Clark,
C.G., and Diamond, L.S. (1993) Entamoeba histolytica: a
method for isolate identification. Exp. Parasitol.
77:450.) The DNA was mechanically sheared to give a
tight size distribution (-2 kb). The v + i method used for
the library construction is described in detail in Smith,
H.O. and Venter, J.C. (Making small insert libraries for
GSS 27-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unpublished (2001)
Contact: Brendan J Loftus
Department of Eukaryotic Genomics
The Institute for Genomic Research
9712 Medical Center Dr., Rockville, MD 20850, USA
Tel: 301 838 0208
Fax: 301 838 3543
Email: blioftus@tigr.org
Clones are derived from the Entamoeba histolytica HM1:IMSS sheared
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 H.O. and Venter, J.C. (Making small insert libraries for whole genome shotgun sequencing projects. In Genome Sequencing: A Practical Approach, eds. M. Vaudin and B. Barell, Oxford University Press, 1999)."
BH148582 BH148582 BH14852F ENTPR62TF Entamoeba histolytica Sheared DNA Entamoeba histolytica
                                                                                                                                                                                                                                            Entamoeba histolýtica
Eukaryota; Entamoebidae; Entamoeba.
1 (bases 1 to 942)
Loftus, B., Wang, Z., Van Aken, S. and Fraser, C.
Determination of clone end sequences from Entamoeba histolytica
HMI: MSS sheared DNA library (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                80 ATGATGAAGATGATGAATTCCAATTAGACGAAGAAGAAGATGATGAAGAAGATGAAGAAG 139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            <u>ښ</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 942;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 176; DB 12; Length 9
Pred. No. 1.2e-13;
0; Mismatches 290; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             High quality sequence start: 15
High quality sequence stop: 794.
Location/Qualiflers
1. 942
/organism="Entamoeba histolytica"
```

us-09-667-130-1\_1.rst

```
AZ550718 879 bp DNA linear GSS 14-NOV-2000 ENTEM36TF Entamoeba histolytica Sheared DNA Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Entamoeba histolytica HM1:IMSS sheared
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Entamoeba histolytica
Eukaryota; Entamoebidae; Entamoeba.
1 (bases 1 to 879)
Loftus, B., Van Aken, S. and Fraser, C.
Determination of clone end sequences from Entamoeba histolytica
HMI:IMSS sheared DNA library
                                                                                                                                                                                                                                                                                                                                          2274
                                                                                                                                                                                                                                                                                                                                                                                                           2334
1915 tagaaggagagagagaaccaacggaagaagagccaagagagagagagagecaacagaaggag 1974
                                                                                                                                                                                                                                                                       2155 aagaggtaccagaaggaagtagaagaggtacccgcagaagtagaagaagtggaagaggtac 2214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2335 aagtagaagtaccagcggtag---tagaagaagaggtgccagaagaagtagaagaagaag 2391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2392 aagaagaggaagaaccagtagaggaagaagatgtattacaattagtaataccatcggaag 2451
                                                                                                                                                                                                                                                                                                                                                           500 AATTTGATGATGAGGACCTTCTTGACTCTGATGAAGGTCTTGATGATGATGACGATGAATTAG 559
                                 140 ATGAAGAAGATGAAGAAGATGAAGAAGATGAAGAAGATGAAGAGATGAAGATGAAG 199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2452 aagatatacaattagacaaaccaaagaaagacgaattaggctctggaattttatct 2507
                                                                                                                                 2035 caggagaagtagaagaaaccgtagaggcgaagaaactgcagaaggagaagtgg
                                                                                                                                                          2215 cagaagaagtggaagagtaccagaagtggaagaggtaccagaagaagtggaagagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1975 aagtgccagaagaagaattagaggcaactccagaggacgatttcgaattagaagaaccaa
                                                                                                                                                                                                      2095 aagaggtacctgcagaagtagaagtagaagaggtacctgcagaagtagaagtgg
                                                                                                                                                                                                                                                                                                                                                                                                         2275 taccagaagaagtggaagaagtggaagaagtagaagtagaagtagaggtaccagcggtagtag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MD 20850,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    quality sequence start: 25
quality sequence stop: 801.
    Location/Qualifiers
    1. .879
    /organism="Entamoeba histolytica"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Department of Eukaryotic Genomics
The Institute for Genomic Research
9712 Medical Center Dr., Rockville,
Tel: 301 838 0208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unpublished (2000)
Contact: Brendan J Loftus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Email: bjloftus@tigr.org
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              genomic, DNA sequence.
AZ550718
AZ550718.1 GI:11176019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Seg primer: M13-Forward
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Entamoeba histolytica.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Fax: 301 838 3543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Class: shotgun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DNA library
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AZ550718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       High
High
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 28
AZ550718/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
 ò
                                 음
                                                                  ò
                                                                                                q
                                                                                                                                ογ
                                                                                                                                                                 g
                                                                                                                                                                                                    ò
                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
```

s,

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BM170146 BS Plasmodium yoelii yoelii cDNA clone PYCQB91 5' end,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2421
                                                                                                                                                                                                                                                                                                           1882 ctgcagaagctccagaggaaggagaattagtattagaaggagaaaggagaaccaacggaag 1941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tacccgcagaagtagaagtggaagaggtaccagaagaagtggaagaggtaccagaag 2241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         aagtggaagaggtaccagaaggaagtggaagagtaccagaagaagtggaagaagtggaag 2301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     aagtagaagaagtagaggtaccagcggtagtagaagtagaagtaccagcggtagtagaag 2361
                                                                                                                                                                                                                                                                 1822 aagaaagtgccaacggaagaattgatgcaactccaagaggacgatttcgaattagaaggaa 1881
                                                                                                                                                                                                                                                                                                                                                                   201 AAGGTCTTGATGATGACGATGAATTAGATCTTGATGATGATGACGAAGATTTAGAAGAAG 142
                                                                                                                                                                                                                                                                                     681 ACGTAGAGCTTTTTGAAGAAGAAAATAATGATGAAGATGATGAAGTTCCAATTAGACGAAG 622
                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              261 ATGCTGTTGCCGAGTCTTTGTTGTTGATTTGATGATGAGGACCTTCTTGACTCTGATG
                                                                                                                                                                                                                                                                                                                       aagagccaagaaaggagagagccaacagaaggagagagtgccagaagaagtaattagaggcaa
                                                                                                                                                                                                                                                                                                                                                                                                ctccagaggacgatttcgaattagaagaaccaacaggagaagaagtagaagaaaccgtag
                                                                                                                                                                                                                                                                                                                                                                                                                                            agggcgaagaaactgcagaaggagaagtagaagtggaaggtacctgcagaagtagaagaag
                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                      DB 12; Length 879;
                                                                                                                                                                                                                      Score 175.8; DB 12; Length
Pred. No. 1.3e-13;
0; Mismatches 272; Indels
          /db_xref="taxon:5759"
/strain="HM1:IMSS"
                                                                                                                                                                                                                    5.3%;
illarity 55.5%;
Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AATTAACTCAA 71
                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             atgtattacaa
                                                                                                                                                                            193
                                                                                                                                                                                                                      Query Match
Best Local Simi
Matches 339;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 29
BM170146
LOCUS
DEFINITION
                                                                                                                                                                            COUNT
                                                                                                                                                                                                                                                                                                                                                     1942
                                                                                                                                                                                                                                                                                                                                                                                                2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2422
                                                                                                                                                                                                                                                                                                                                                                           561
                                                                                                                                                                                                                                                                                                                                                                                                                                           2062
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 81
                                                                                                                                                                           BASE CO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                                                                                                                               δý
                                                                                                                                                                                                                                                                                                                                                                                                                    q
                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                          g
```

```
source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 30
A2972907/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                          q
                                                                                                                               ò
                                                                                                                                                                                      q
                                                                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /clone_lib="PyBS"
/clone_lib="PyBS"
/clone_lib="PyBS"
/dev_stage="Asexual blood stages"
/dev_stages="Asexual blood stages"
/dev_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            primer and reverse transcriptase in the presence of 5-methyl dcTP. After second strand synthesis, uneven termini were treated with Pfu DNA polymerase and EcoRI adaptors ligated to the blunt ends. The sample was cleaved with XhoI and separated on a Sephacryl S-500 column. Size-fractionated conho was precipitated and ligated to HybriZAP arms directionally using EcoRI-XhoI cleaved arms. After packaging, the phagemid vector (pAD-GAL4) was excised from the HybriZAP vector and plasmid DNA isolated."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ï
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Email: carlton@tigr.org

Pro clone info, please contact the Malaria Research and Reference
Reagent Resource Center, ATCC
http://www.malaria.mr4.org/mr4pages/index.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1929 gaaccaacggaagaagagccaagagaaggagagccaacagaaggagaagtgccagaagaa 1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1989 gaattagaggcaactccagaggacgatttcgaattagaagaaccaacaggagaagaagta 2048
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        267 GAAGCACCAGTAGAAGCTGAAGCACCAGTAGAAGCTGAAGCACCAGTAGAAGTAGAAGGA 326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    327 CCCGTAGAAGTAGAAGGACCCGTAGAAGCTGAAGTACCAGTAGAAGCTGAAGTACCAGTA 386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          387 GAAGCTGAATCACCAGTAGAAGATGAAGTACCAGTAGAATCAGAAGTAGTTGTAGAAGCT 446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          447 GAAGCACCCGTAGAAACTGAGGTACCAGCAGAATCAGAAGTAGCTGTAGAAGTAGAAACT 506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                        Carlton,J.M., Daly,T.M., Long,C.A., Bergman,L.W., Vaidya,A.B.
Fraser,C.M. and Carucci,D.J.
                                                                                                                                                                            Eukaryota; Alveolata; Apicomplexa; Haemosporida; Plasmodium. (bases 1 to 832)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;
;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 10; Length 832;
                                                                                                                                                                                                                                                                                                                                                     Unpublished (2001)
Contact: Jane Carlton
Parasite Genomics Group
The Institute for Genomic Research
9712 Medical Center Drive, Rockville, MD 20850, USA
Tel: 301-530-9319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 175.2; DB 10; Length
Pred. No. 1.5e-13;
0; Mismatches 233; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Plasmodium yoelii yoelii"
/strain="17XL"
/db_xref="taxon:73239"
                                                                                                                                                                                                                                                                                                                             Plasmodium yoelii EST project at TIGR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                            Plasmodium yoelii yoelii.
                                                                                                                                                              Plasmodium yoelii yoelii
                                                       BM170146.1 GI:17303378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 5.3%;
Best Local Similarity 58.2%;
Matches 328; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Fax: 301-838-0208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Seq primer: ADF
mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       330 a
                        ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2049
                                                                                                                                                                                                                                                                                                                         TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                         REFERENCE
                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               q
```

```
/lab_host="E. coli strain XLIO-Gold, Tl-resistant, F-"
/note="Wector: PWD42nv; Purified genomic DNA from M.
/note="Wector: PWD42nv; Purified genomic DNA from M.
musculus C57BL/6J (female) was obtained from the Jackson
Laboratory Mouse DNA Resource
(http://www.jax.org/resources/documents/dnares/). The DNA
was hydrodynamically sheared by repeated passage through a
0.005 inch orlitice at constant velocity. The sheared DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rm. 308, Biomedical Polymers Research Bldg., 20 S. 2030 E., SLC, UT 84112, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GSS 27-APR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia; Eutherla, Rodentia, Sciurognathi, Muridae; Murinae; Mus. 1 (Dases 1 to 718)

Dunn, D., Aoyagi, A., Barber, M., Beacorn, T., Duval, B., Hamil, C., Aslam, L., Longacre, S., Mahmoud, M., Meenen, E., Pedersen, T., Reilly, M., Rose, M., Rose, R., Stokes, R., Tingey, A., von Niederhausern, A. and Wright, D., Weiss, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AZ972907
2M0246M24R Mouse 10kb plasmid UUGC2M library Mus musculus genomic clone UUGC2M0246M24 R, DNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                            2348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2408
                                                                                                                                                                                                                                                                    2229 gaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaagag
2109 gaagtagaagaagtggaagaggtacctgcagaagtagaagaagtggaagaggtaccagaa 2168
                                                                                                                                                                                                                                                                                                                                        627 GAAACTGAAGCACCCATAGAATCAGAAGCAGTAATAGAGTCTGAAGTACCAATAGAAGCT 686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            687 GAATCACCAGTAGAAGTAGAAGCACCA---GTAGAAGCTGAATCACCAGTAGAAGCTGAA 743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                744 TCACCAGTAGAAGCTGAATCACCAGTAGAAGCTGAATCACCAGTAGAAGCTGAATCACCA 803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mouse whole genome scaffolding with paired end reads from 10kb
                                                                                                                                                                           507 GAATCACCAGCAGAAGCTGAAGTACCAATAGAAGCTGAATCACCAATGGAAGCTGAATCA
                                                                                                                                    2169 gaagtagaagaggtacccgcagaagtagaagaagtggaagaggtaccagaagaagtggaa
                                                                                                                                                                                                                                                                                                                                                                                                            2289 gaagaagtggaagaagtagaagtagaagtagaggtaccagcggtagtagaagtagaagtacca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2349 gcggtagtagaagaagaggtgccagaagaagtagaagaagaagaagaagaagaagaagca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /clone_lib="Mouse 10kb plasmid UUGC2M library"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tel: 801 585 5606
Fax: 801 585 7177
Email: ddunn@genetics.utah.edu
Insert Length: 10000 Std Error: 0.00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Plate: 0246 row: M column: 24
Seq primer: CACACAGGAAACAGCTATGACC
Class: plasmid ends
High quality sequence stop: 718.
Location/Qualiflers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Unpublished (2000)
Contact: Robert B. Weiss
University of Utah Genome Center
University of Utah
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /strain="C57BL/6J"
/db_xref="taxon:10090"
/clone="UUGC2M0246M24"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2409 gtagaggaagaagatgtattacaa 2432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    804 GTAGAAGTAGAAGCACCAGTAGAA 827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AZ972907
AZ972907.1 GI:13844134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /sex="Female"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       plasmid inserts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           house mouse.
```

```
polynucleotide kinase. Adaptor oligonucleotides were ligated to the blunt ends in high molar excess. The adaptored DNA was purified and size-selected for a 9.5 to 10.5 kb range using preparative agarose gel electrophoresis. Vector DNA was prepared from a derivative of pWADA2 (gil4732114 gblAR129072.1), a copy.number inducible derivative of plasmid Rl. The vector was ligated with adaptors complementary to the insert adaptors and purified. The sheared, adaptored mouse DNA was annealed to adaptored vector DNA, and transformed into chemically-competent E. coli XL10-Gold (Stratagene) cells and selected for ampicillin resistance."
                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                 2249 agaggtaccagaagaagtggaagaggtaccagaagaagtggaagaagtggaagaagtaga 2308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2309 agaagtagaggtaccagcggtagtagaagtagaagtaccagcggtagtagaagaagaggt 2368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2129 ggtacctgcagaagtagaagtagaagtggaagaggtaccagaagaagtagaaggtacccgc 2188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     agaaactgcagaaggagaagaagtggaagaggtacctgcagaagtagaagtggaaga 2128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
was blunt end-repaired with T4 DNA polymerase and T4
                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 5.2%; Score 173.6; DB 12; Length 718; Best Local Similarity 57.9%; Pred. No. 2.6e-13; Matches 308; Conservative 0; Mismatches 224; Indels 0;
                                                                                                                                                                                               43
                                                                                                                                                                                             BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q
D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ολ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            음
```

Search completed: June 14, 2002, 14:11:13 Job time: 14365 sec

```
Sequence 184, App
Sequence 14, Appl
Sequence 1, Appli
Sequence 208, App
Patent No. 5273901
Sequence 2, Appli
Sequence 2, Appli
Sequence 1, Appli
Sequence 3, Appli
Sequence 8, Appli
Sequence 8, Appli
Sequence 8, Appli
Sequence 6, Appli
                                                                                                                                                                                                                                                                   8, 1
8, 1
6, 1
1, 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 1, Application US/08072610
Patent No. 5552133
GENERAL INFORMATION:
APPLICANT: Barnwell, John
TITLE OF INVENTION: Plasmodium vivax Blood Stage Antigens,
TITLE OF ENVENTION: Monoclonal Antibodies, and Diagnostic Assays
NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                Sequence (Sequence (Sequence )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 3337;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STREET: New York
STATE: New York
COUNTRY: USA
ZIP: 10012-7513
ZIP: 10012-7513
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATCHIN BATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: US/08/072,610
FILING DATE: 19930602
CLEASSFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: GOGOTIS, Adda
REGISTRATION NUMBER: 29/714
REFERENCE/DOCKET NUMBER: 5986/07686
TELEFAX: (212)527-7700
TELEFAX: (212)537-7700
TELEFAX: (212)535-6237
TELEFAX: (212)535-6237
TELEX: NUCLEIC ACID
SEQUENCE CHARACTER STICS:
LENGTH: 3337 base pairs
TYPE: NUCLEIC ACID
STRANDEDNESS: double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 1;
                                                              US-08-954-441-1

US-08-781-891-208

2573910-6

US-09-501-13-2

US-09-501-13-2

US-08-973-462-3

5482709-5

US-08-973-462-3

5482709-5

US-08-574-959A-8

US-08-574-959A-6

US-08-929-329-1
                           US-08-232-463-14
US-08-323-170B-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Score 3337;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE: Darby and Darby
STREET: 805 Third Ave.
CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORIGINAL SOURCE:
ORGANISM: Plasmodium vivax
IMMEDIATE SOURCE:
CLONE: PVMB3.3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE: DNA (genomic) HYPOTHETICAL: NO
    1669
9636
9636
16442
1243
1276
1276
1891
1891
1891
3211
3211
3213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear
      9
2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-08-072-610-1
                                                                                                                                                                                                                            1117.4
1116.6
1115.6
1115.6
1115.6
1115.6
1110.8
    145
141.8
138
133.4
127.2
124
124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
      June 14, 2002, 10:11:49; Search time 72.28 Seconds (without alignments) 11340.329 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 1, Appli
Sequence 1, Appli
Sequence 1, Appli
Sequence 20, Appl
Sequence 20, Appl
Sequence 20, Appl
Sequence 20, Appli
Sequence 1, Appli
Sequence 1, Appli
Sequence 1, Appli
Sequence 1, Appli
Sequence 15, Appl
Sequence 16, Appl
Sequence 193, Appl
Sequence 194, Appl
Sequence 191, Appl
Sequence 193, Appl
Sequence 193, Appl
Sequence 191, Appl
Sequence 191, Appl
Sequence 193, Appl
Sequence 193, Appl
Sequence 191, Appl
Sequence 191, Appl
Sequence 191, Appl
Sequence 191, Appl
Sequence 193, Appl
Sequence 193, Appl
Sequence 194, Appl
Sequence 195, Appl
Sequence 196, Appl
Sequence 196, Appl
Sequence 185, Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                        1 gaattooggtaaagtaacaa.......stottataaaataaataatto 3337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1: /cgn2_6/ptodata/1/ina/5A_COMB.seq:*
2: /cgn2_6/ptodata/1/ina/5B_COMB.seq:*
3: /cgn2_6/ptodata/1/ina/6A_COMB.seq:*
4: /cgn2_6/ptodata/1/ina/6B_COMB.seq:*
5: /cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*
6: /cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*
                         version 4.5
- 2000 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-973-462-2
US-08-973-462-1
US-09-050-863-2
US-09-130-114-1
US-08-910-647-1
US-07-885-971-15
US-08-087-783A-15
US-08-194-088B-15
US-08-194-088B-15
US-08-194-087-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-08-719-822B-1

US-09-092-458-1

US-08-728-323A-1

US-08-770-379-20

US-08-757-669A-20

US-09-200-371A-20

5231168-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-461-697-189
US-09-461-697-187
US-09-461-697-185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-461-697-193
US-09-461-697-191
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-08-056-200-93
                                                                                                                                                                                                                                                                                                                                                                                                     383533 seqs, 122816752 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                             OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                    IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                         GenCore
Copyright (c) 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Issued_Patents_NA:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                            US-09-667-130-1
3337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query
Match Length DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0
100.0
100.0
6.0
6.0
6.0
6.2
                                                                                                                                                                                                                                            Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3337
3337
199
199
1100.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.2
1170.
                                                                                                                                                                                                                                                                                                                                       Scoring table:
                                                                                                                                                                                                                                                                                           Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                        Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Database
                                                                                                                                                         Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Result
No.
```

a

Mon Jun

ш ≥;	dest Lo Matches	Best Local Similarity 100.0%; Pred. No. 0; Matches 3337; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	QQ (	
Qy		gaattccggtaaagtaacaactatggtttcgtatctatatata	oy Op	
Oy.	61	ttttgcttttcttttaattcatgcttcaacagtaagataaaataatctataaaaactgc 120 	Oy Dp	1141 cggaagtgggacca 
Qy Db	121	tatatatacatatattcataagtggcatttgtgaattgcgatcatttaaatttacgta 180 	o d	1201 gatttogcattaga 
oy do	181	aaaacaatattgaaaaaattttttttttttttttttttt	Oy Dp	1261 cagaagaagctgca 
Qy	241		Qy Db	1321 aggcaactccagag 
Qy da	301	aattagaagagaaaattttgatgagaattcaggtgatgatgaactcttttagatgcta 360 	oy Op	1381 ctgcagaaggagaa 
Qy Dp	361 361		Qy	1441 agggagaagaagct 
Oy do	421	aaacgttagatggaggtgaatcattaggaggtttccactgaagatatggaaacagaag 480 	y d	1501 aattagaagaacca 
Qy Db	481		Qy	1561 gagaagcgttagta 
Qy GD	541	. aagaagctggcgatatggaagcagggaagaagctggtgatttggaagcaggggaagaa 600 	Oy Op	1621 agcctgtcaaacca 
Oy Db	601		Oy Db	1681 ataacgatttaacg 
QY Db	661	atttggaagcaggggaagaactggcgatttggaagcaggggaagaactggagatgcgg 720 	o S	1741 aggatcctgatgca 
oy do	721		OY Db	1801 cagtggcagtaggg 
Qy Dp	781	. acacagaagatagttcagctgatggagcagaaaagtacatgttcctgctcaagaaatg 840 	oy G	1861 acgatttcgaatta 
Qy Db	841	tacaacctgccgatagtaatgatgcctcttggaagtattttggataaagatatattt 	Qy	1921 <sup>.</sup> gagaaggagaacca 
Qy	901	ttgatcatattaaagatttcgagccactattcgaacaaattgtggcgggtactgctaaac 	Qy	1981 cagaagaatta 
Qy Dp	961		Oy Dp	2041 aagaagtagaagaa 
Qy	1021	cgcaagtaccagcggaagaattagatgccactccagaggatgacttcgcattagatgtta	Qγ	2101 tacctgcagaagta 
	<b>4</b> )	1		

GGAAGAATTAGATGCCACTCCAGAGGATGACTTCGCATTAGATGTTA 1080 agaaggagaagtatcagaagaaactccagaaggagaagaagagttag agcagtgccagtagtggccgaaccggtagaagtagtgactcctgctc agaaggaactgcagaagctccagaggaaggagaattagtattagaag

```
ttttgcttttcttttaattcatgcttcaacagtaagataaaaataatctataaaaactgc 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITIGCITITICITITAATICATGCTTCAACAGTAAAAATAATCTATAAAAACTGC 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 3337;
                                                                                                                            vivax Blood Stage Antigens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB
                                                                                                                                                                                                                  COMPUTER: IBM PC COMPATIBLE
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOCTWARE: PETENTIN Release #1.0, Version
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/719,822B
FILING DATE: 09/30/96
                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
NAME: GOGOLIS, Adda
REGISTRATION NUMBER: 29,714
REFERENCE/DOCKET NUMBER: 5986/17686US2
TELECOMMUNICATION INFORMATION:
TELEFAX: (212)527-7700
TELEFAX: (212)753-6237
TELEFAX: 236687
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
                                         3301 aaaagaacagattattctcttataaaataaattc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 100.0%; Score 3337; Best Local Similarity 100.0%; Pred. No. 0; Matches 3337; Conservative 0; Mismatches
                                                                                          Sequence 1, Application US/08719822B Patent No. 5874527
                                                                                                                  APPLICANT: Barnwell, John
TITLE OF INVENTION: Plasmodium
NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
ADDRESSEE: Darby and Darby
STREET: 805 Third Ave.
                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Plasmodium vivax
IMMEDIATE SOURCE:
CLONE: PVMB3.3.1
                                                                                                                                                                                                                                                                                                                                                                                                  MOLECULE TYPE: DNA (genomic) HYPOTHETICAL: NO
                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 3337 base pairs
                                                                                                                                                                                                                                                                                                                                                                          nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                           linear
                                                                                                                                                                              New York
                                                                                                                                                                                             10022-7513
                                                                                                           GENERAL INFORMATION:
                                                                                                                                                                                                                                                                       CLASSIFICATION:
                                                                                                                                                                     New York
                                                                                                                                                                    CITY: New Yor!
STATE: New YO!
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                          HYPOTHETICAL: NAMI-SENSE: NO
                                                                                                                                                                                                                                                                                                                                                                                                                           ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                  STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY:
                                                                          RESULT 2
US-08-719-822B-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-08-719-822B-1
                                                 3301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
            g
                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                             2460
                                                                                                                                                                                                                                                                                                                                               tgaaatggtttctcctaaaagaaaagaaacgaatatttaggacaaagaatggaaaaatggact
                                                                                                                                                                                                             actaccaagacgttccaaaggaatttatggaagaagaagaagaagctgcagtgtatccat
                                                                                                                                                                                                                                               tgtcacaatttgaaaacaagaaaccaaagaatggttaatgaatcactggaaaaagaacg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGAAATGGTTTCTCCTAAAAGAAAACGAATATTTAGGACAAAGAATGGAAAAAATGGACT
                                         aagtggaagagtaccagaagtagaagtggaagaggtaccagaagaagtggaagaggtaccag
                                                                                                                                                                             2221
                                                                                                                          2341
                                                                                                                                                           2401
                                                                                                                                                                                            2461
                                                                                                                                                                                                                                                                                              2641
                                                                                                                                                                                                                                                                                                                              2701
                                                                                                                                                                                                                                                                                                                                                               2761
                                                                                                                                                                                                                                                                                                                                                                                                2821
                                                                                                                                                                                                                                                                                                                                                                                                                                                  2941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3061
                                       2221
                                                                         2281
                                                                                          2281
                                                                                                                                           2401
                                                                                                                                                                            2461
                                                                                                                                                                                                             2521
                                                                                                                                                                                                                            2521
                                                                                                                                                                                                                                             2581
                                                                                                                                                                                                                                                                               2641
                                                                                                                                                                                                                                                                                                              2701
                                                                                                                                                                                                                                                                                                                                               2761
                                                                                                                                                                                                                                                                                                                                                                                 2821
                                                                                                                                                                                                                                                                                                                                                                                                                 2881
                                                                                                                                                                                                                                                                                                                                                                                                                                 2881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3061
       à
                     셤
                                       ò
                                                    g
                                                                     õ
                                                                                        g
                                                                                                         ò
                                                                                                                       g
                                                                                                                                         ò
                                                                                                                                                          8
                                                                                                                                                                           ò
                                                                                                                                                                                        Q
                                                                                                                                                                                                            ò
                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                              5 8
                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                           õ
                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
```

ö

Oy do	181	. aaaacaatattgaaaaaattttttttttttttttttttt	q	126
3 2	241		δy	132
g G	. 4		Db	132
ò	0	aattagaagagaaattttgatgagaattsaggtgatgatgaagststtttagaasts	QY	138
g 6	0		Dp	138
ò	361	CCCCCdaaqatgactttgccttaacagatttgccaattgaggacaatgaagg	QY	144
7 원	وت ز	CCCCCGAAGATGACTTTAGCCTTAACAGATTTGCCAATTGAAGAGGAAGAAGAAGAAGAAGAAGAAGAAGAAGAA	qa	144
20		Assent tanstons to attact and and the contract assents as a second and a second as a secon	Oy	150
유	0		QQ	150
ò	481	atdoctcaacagatgatacgaaacagaagaagactacctggtgatatgggaagaag 54	Qγ	156
: A	- 00	THE STATE OF THE S	qq	156
Οÿ	541	aagaagctggcgatatggaagcaggggaagaagctggtgatttggaagcaggggaagaaa 60	Οy	
qq	541		QQ	6
ò	601	ctggcgatttggaagcaggggaagaaactggcgatttggaagcaggggaagct	δy	168
. q	601		QQ	9
ò	661	atttogaagcaggggaagctggcgatttggaagcagggaagaaactggaattocg 7	δλ	174
: a	9		qa	174
ò	721	יייייייייייייייייייייייייייייייייייייי	QY	180
; a	i	Vancogassa garante 1999aga 1959ga and 1988 and 1989ga and 1989ga and 1989ga 1989ga 1989ga 1989ga 1989ga 1989ga 	qq	180
ò	781	acacagaagatagttcagctgatggagcagaaaaagtacatgttcctgctcaagaaaatg 84	δŏ	186
ු යු	60		qa	186
ò	841	tacaacctgccgatagtaatgatgccctctttggaagtattttggataaagatatt+ 90	Qy	192
; a	841		qa	192
ò	_ 0	ttdatcatattaaagatttcgagccactattcgaacaaattgtgggggaagagggggggg	QY	1983
· 8	901		qa	1983
è	961	atottanonomanaattonomatmaaanntutannattanomathannamaanannom 10	QY	204
. q	ض ن		QQ	204
ò	1021	cgcaagtaccagcggaagaattagatgccactccagaggatgacttagatgta 108	Οy	210.
. a	1021		QQ	210
) è	8	CONTRACTOR AND	Qy	216
유	080	System Control of the	qa	216]
<b>^</b>	1141	cadaaattadaaccaacaaaaaaaaaccaaccaaccaaaaattadatancectocaaaaatu 120	οy	222]
· 6	14		qq	222]
ò	1201	datttegeattagaecqaaactocagaaqqaaacagaaaqaaacqagaaqq	Qy	228]
· 8	1201		qq	
ά	1261	cagaagaago	δλ	234]
	÷			

aagtaccagcggtagtagtagaagaagaggtgccagaagaagtagaagaagaagaagaagagg ctgcagaaggaaggaaaccgtagaggagaagaaaccgtagaggagaagaaaccgtag ataacgatttaacgtatgcagacattacatcctttgagccattatttaaacaaatcctca tacctgcagaagtagaagtagaagaggtacctgcagaagtagaagtggaagagg cagaagaagaattagaaggcaactccagaggacgatttcgaattagaagaaccaacaggag 2.1 Ħ

```
aattagaagaggaaaattttgatgagaattcaggtgatgatgaaactcttttagatgcta 360
                                                                                                                                                                                                                                                                                                                                                                  Stage Antigens, and Diagnostic Assays
                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                       Length 3337;
                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                       DB 4;
                                                                                                                                                                                                                                                                                                                                                     ö
                                                                            MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.
CURRENT APPLICATION DATA:
Plasmodium vivax Blood
Monoclonal Antibodies,
                                                                                                                                                                                                                                                                                                                                     100.0%; Score 3337;
100.0%; Pred. No. 0;
iive 0; Mismatches
                                                                                                                                                                   NAME: GOGOTIS, Adda
REGISTRATION NUMBER: 29,714
REFERENCE/DOCKET NUMBER: 5986/17686US3
                                                                                                                                              08/719,821
TITLE OF INVENTION: Plasmodium
TITLE OF INVENTION: Monoclonal
NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
ADDRESSEE: Darby and Darby
STREET: 805 Third Ave.
CITY: New York
STATE: New York
                                                                                                                                                                                       TELECOMMUNICATION INFORMATION:
TELEPHONE: (212)527-7700
                                                                                                                                                                                                                                                                                         ORGANISM: Plasmodium vivax IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                DNA (genomic)
                                                                                                                               CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/71
FILING DATE: 09/30/96
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                     TELEFAX: (212)753-6237
TELEX: 23667
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 3337 base pairs
                                                                                                                                                                                                                                                                                                                                       Ouery Match 100.
Best Local Similarity 100.
Matches 3337; Conservative
                                                                                                                                                                                                                                                  double
                                                              ZIP: 10022-7513
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                           nucleic acid
                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                         CLONE: PVMB3.3.1
                                                                                                                                                                                                                                                          TOPOLOCIA
MOLECULE TYPE: DN
                                                                                                                                                                                                                                                                                    ORIGINAL SOURCE:
                                                         USA
                                                                                                                                                                                                                                                  STRANDEDNESS:
                                                                                                                                                                                                                                                                              ջ
                                                                                                                         FILING DATE:
                                                                                                                                                                                                                                                                              ANTI-SENSE:
                                                         COUNTRY:
                                                                                                                                                                                                                                                                                                                 US-09-092-458-1
                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                 염
                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
         2760
                                                                                                                                                                                         2820
                                                                                                                                                                                                                    3120
                                                                                                                                                                                                                                                                                                                                                                   3180
                                                                                                                                                                                                                                                                                                                                                                                               aacggggttatggttctgaatcatttgaagttatgaccacatcaaaattattaaatgtgg 3060
                                                                                                                                                                                                                                                                                                                                                                                                                                  cgcctaaccaaggaagaatggaatcaatttgttaatgaaataaaagtttgaattatagaa
2341 AAGTACCAGGGGTAGTAGAAGAAGAGGGGGCCAGAAGAAGTAGAAGAAGAAGAAGAAGAAGAAGA
                                                                        actaccaagacgttccaaaggaatttatggaagaagaagaagaaactgcagtgtatccat
                                                                                                   aaggootagaaggogactgggaacgattagaagtgagottaaataaggootagagaaagat
                                                                                                                                                                                                                                                 tgtcacaatttgaaaacaagaaaccaaagaatggttaatgaatcactggaaaaagaacg
                                                                                                                                                                                                                                                                                                                                                                                                                                                               aaaagaacagattattctcttataaaataaataattc 3337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 1, Application US/09092458
Patent No. 6231861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Barnwell, John
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-092-458-1
                            2401
                                                                                    2521
                                                                                                   2581
                                                                                                                               2641
                                                                                                                                             2641
                                                                                                                                                                                                     2761
                                                                                                                                                                                                                                  2821
                                                                                                                                                                                                                                                               2881
                                                                                                                                                                                                                                                                             2941
                                                                                                                                                                                                                                                                                           2941
                                                                                                                                                                                                                                                                                                                        3001
                                                                                                                                                                                                                                                                                                                                                    3061
                                                                                                                                                                                                                                                                                                                                                                  3121
                                                                                                                                                                                                                                                                                                                                                                                 3121
                                                                                                                                                                                                                                                                                                                                                                                                            3181
                                                                                                                                                                                                                                                                                                                                                                                                                           3241
                                                                                                                                                                                                                                                                                                                                                                                                                                                        3301
              2401
                                                                      2521
                                                                                                                                                           2701
                                                                                                                                                                                        2761
                                                                                                                                                                                                                    2821
                                                                                                                                                                                                                                                 2881
                                                                                                                                                                                                                                                                                                         3001
                                                                                                                                                                                                                                                                                                                                     3061
                                                                                                                                                                                                                                                                                                                                                                                               3181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3301
                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
8
              ò
                           a
                                         à
                                                     8
                                                                      õ
                                                                                8
                                                                                               ò
                                                                                                             9
                                                                                                                              à
                                                                                                                                         a
                                                                                                                                                       ò
                                                                                                                                                                       8
                                                                                                                                                                                    õ
                                                                                                                                                                                                 8
                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                q
                                                                                                                                                                                                                                                                                                                                                               õ
                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                         용
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
```

Gaps

300

Mon

0 0	O O	0 0	0 0 0	ο <u>α</u>	о <u>а</u> (	0 0 0	O A (	O A (	O A 6	O A 6	0 0 0	י בּיִכ	O A	0 0 1	0 0 0	0 0	0 0
420	480	540 540	600	999	720	780	840 840	006	096	1020	1080	1140	1200	1260 1260	1320 1320	1380 1380	1440 1440
ccccgaagatgactttgccttaacagatttgccaattgaagacgatgaagtcaacg 	aaacgttagatggaggtgaatcattaggagaggtttccactgaagatatggaaacagaag 	atggctcaacagatgatacggaaacagaagaaggactacctggtgatatggaaggagaag 	aagaagctggcgatatggaagcaggggaagaagctggtgatttggaagcaggggaagaa 	ctggcgatttggaagcaggggaagaactggcgatttggaagcaggggaagaagctggtg 	atttggaagcaggggaagaactggcgatttggaagcaggggaagaactggagatgcgg 	aaactgaagaaggagcaactggagatgcggaaactgaaaatggagcaactgtgtatgta	acacagaagatagttcagctgatggagcagaaaagtacatgttcctgctcaagaaaatg 	tacaacctgccgatagtaatgatgcctctttggaagtattttggataaagatattattt 	tgatcatattaaagatttcgagccactattcgaacaaattgtggggggtactgctaaac 	atgttacgggacaagaattgccaatgaaacctgtaccattaccagtggcagaagagcccg 	cgcaagtaccagcggaagaattagatgccactccagaggatgacttcgcattagatgtta 	cagaatctcccgaggaagtagaattagtattagatgaagaggcaactgaagaagaatcaa 	cggaagtgggaccaacggaaggaccaaccgaagaattagatgccactccagaggatg 	gatttcgcattagacgaaactgcagaaggagaaacagaagaaacgtagagggagaagaaa 	cagaagaagctgcagaaggagaagtatcagaagaaactccagaaggagaagaagttag 	aggcaactccagaggatgatttcgcattagatggaactacattagaagaaaccgaagaaa 	ctgcagaaggagaagaaaccgtagaggagaagaaaccgtagaggagaagaaaccgtag 
361	421	481	541	601	661	721	781	841	901	961	1021	1081	1141	1201	1261	1321	1381
Qy Db	Oy Db	Oy Db	Qy Dp	Qy Dp	Oy Dp	Qy Dp	QY Dp	Qy Dp	Qy Db	Qy Dp	Qy Db	QY	상 염	63 Pp	Qy	Qy	Qy Db

2100 2160 2340 1680 1680 1800 1800 2040 2040 2100 2160 2220 2280 2280 2400 2400 2460 2460 1500 actaccaagacgttccaaaggaatttatggaagaagaagaagaagaaactgcagtgtatccat 2580 aggatcctgatgcaggagaggctgtaacagtaccatcaaaggaagcacctgtacaagtac cagtggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaactccaagagg aagaagtagaagaaaccgtagagggcgaagaaactgcagaaggagagaagtggaagagg tacctgcagaagtagaagtggaagaggtacctgcagaagtagaagtggaagagg 1441 1441 1501 1501 1561 1561 1621 1621 1681 1681 1741 1741 1801 1801 1861 1861 1921 1921 1981 1981 2041 2041 2101 2101 2161 2161 2221 2221 2281 2281 2341 2341 2401 2401 2461 2461 2521 QQ В q QY QQ Qγ Q QQ ΟŽ g ογ Db ρp Op g g g g Dp ρý οy g δý ΟŊ ò οy δ δy οy δŽ οy δy δy ò ŏ

```
TOPOLOGY: linear MOLECULE TYPE: DNA (genomic)
                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 46.9%;
Matches 685; Conservative C
                                                                                                                                                                                       INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 3489 base pairs
                                              disk
                                                                                                                                                                                                                     TYPE: nucleic acid
STRANDEDNESS: single
                           ZIP: 10036
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                              1..3489
         New York
: U.S.A.
New York
                                                                                                        FILING DATE:
                                                                                                                                                                                                                                                                     NAME/KEY:
                                                                                                                                                                                                                                                                              ; LOCATION:
US-08-728-323A-1
                   COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                    1131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1506
                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                               QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                           3180
                                                                                                                                                                                                                     3300
                                                                                                     3060
2641 aaggootagaaggogaotgggaaogattagaagtgagottaaataaggotagagaaagat 2700
                                                                            CAGAATATAGTCAAATTTCAACAAAGGAACCCCAGCTGGTTTGAGAAAACGAGAGT 2820
                                                                                                                                                                                                                                                           tgicacaaittgaaaacaagaaaaccaaagaaiggitaaigaatcaciggaaaaagaacg 3000
                                                                                                                                                                                                                                                                                                 aacggggttatggttctgaatcatttgaagttatgaccacatcaaaattattaaatgtgg 3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cattggaaaaaagttaaatttttgtgttcaattcaatgtgtacaacattttctggaaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                    CATTGGAAAAAATTTTTTTTTTGTGTTCAATGTGTACAACATTTTCTGGAAAA
                                                                                                                                           cagaatatagtcaaatttcaacaaaaggaaaggacccagctggtttgagaaacgagagt
                                                                                                                                                                                 ggagcgacgagaaatggaaaaatggtttaaagcagaagtcaaatcccaaattgattcac
                                                                                                                                                                                                                                                                                                                                                                                                                                                         cgcctaaccaaggaagaatggaatcaatttgttaatgaaataaaagtttgaattatagaa
                             GENERAL INFORMATION:
APPLICANT: Chang, Yuan
APPLICANT: Bohenzky, Roy A.
APPLICANT: Raso, James J.
APPLICANT: Raso, James J.
APPLICANT: Reclman, Islacre S.
APPLICANT: Moore, Patrick S.
TITLE OF INVENTION: Immediate Early Protein From Kaposi's TITLE OF INVENTION: Encoding Same And Uses Thereof
NUMBER OF SEQUENCES: 21
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3301 aaaagaacagattattctcttataaaataaattc 3337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADDRESSEE: Cooper & Dunham LLP
STREET: 1185 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 1, Application US/08728323A
Patent No. 5948676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 4
US-08-728-323A-1
                                                                                                                                                                                                                                                          2941
                                                                                                                                                                                                                                                                                                                                                                                                                                   3181
                                              2581
                                                                                                                                                                                                                                                                             2941
                                                                                                                                                                                                                                                                                                 3001
                                                                                                                                                                                                                                                                                                                                       3061
                                                                                                                                                                                                                                                                                                                                                         3061
                                                                                                                                                                                                                                                                                                                                                                                              3121
         2521
                            2581
                                                                                   2641
                                                                                                      2701
                                                                                                                        2701
                                                                                                                                          2761
                                                                                                                                                             2761
                                                                                                                                                                                2821
                                                                                                                                                                                                  2821
                                                                                                                                                                                                                     2881
                                                                                                                                                                                                                                        2881
                                                                                                                                                                                                                                                                                                                    3001
                                                                                                                                                                                                                                                                                                                                                                            3121
                                                                                                                                                                                                                                                                                                                                                                                                                 3181
                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                                                  õ
                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
         음
                           ò
                                            q
                                                            ò
                                                                               8
                                                                                                    õ
                                                                                                                   8
                                                                                                                                     õ
                                                                                                                                                          g
                                                                                                                                                                           ò
                                                                                                                                                                                                                   õ
                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                         õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
```

```
1071 ttagatgttacagaatctcccgaggaagtagaattagtattagatgaagaggcaactgaa 1130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gaagaatcaacggaagtgggaccaacggaagaagaagaccaaccgaagaattagatgccact 1190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ccagaggatggatttcgcattagacgaaactgcagaaggagaaacagaagaagaacgtagag 1250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1206 CGAGGAGGATGACGATGATGAGGACAATGAGGACGAGGAGGATGACGAGGAGGAGGACAA 1265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1446 GCAGGAGCCACAACAGCAGGAGCCACAGCAGGAGCCCTGCAGGAGCCACAACAGCA 1505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1011 gaagagecegegeaagtaceageggaagaattagatgecaetecagaggatgaettegea 1070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1251 ggagaagaaacagaagaagctgcagaaggagaagtatcagaagaaactccagaaggagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       accgaagaaactgcagaaggagaagaaccgtagagggag---aagaaaccgtagaggga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAGGATGACGAGGATGACGAGGAGGATGACGAGGAGGATGACGAGGAGG-ATGACGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 3489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: White, John P. REGISTRATION NUMBER: 28,678
REFERENCE/DOCKET NUMBER: 0575/52268/JPW/MSC/SKS
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELECHONE: 212-278-0400
TELEFAX: 212-391-0525
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATCHIN Release #1.0, Version #1.30
SURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/728,323A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 199; DB 2;
Pred. No. 2.5e-27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0; Mismatches
```

ä

```
2045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2225
                                                                          1967
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2087
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2207
1548 ggggaaggagaaggagaagcgttagtagcagtgccagtagtggccgaaccggtagaagta 1607
                         gtgactcctgctcagcctgtcaaaccaatggtcgctccaacggcagatgaaactttattc 1667
                                                                                                                   gttgatatcttagataacgatttaacgtatgcagacattacatcctttgagccattattt 1727
                                                                                                                                                                                                     cctgtacaagtaccagtggcagtagggcccgcgcaagaagtgccaacggaagaattgatg 1847
                                                                                                                                                                                                                                                             1806 GGATGAGCAGCAGCAGGATGAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCA 1865
                                                                                                                                                                                                                                                                                                                                                                 gaaggagaagtgccagaagaagaattagaggcaactccagaggacgatttcgaattagaa 2027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gaagaggtaccagaagaagtggaagaagtggaagaagtagaagtagaagtagaggtaccagcg 2327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2346 GTTAGAGGAGCAGGAGCAGGAGTTAGAGGAGCAGGAGCAGGAGTTAGAGGAGCAGGAGCA 2405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gaagaagaagaagaaccagtagaggaagaagatgtattacaattagtaataccatcg 2447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2406 GGAGTTAGAGGAGCAGGAGCAGGAGTTAGAGGAGCAGGAGCAGGAGTTAGAGGAGCAGGA 2465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1728 aaacaaatcctcaaggatcctgatgcaggagggctgtaacagtaccatcaaaggaagca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaagagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gtagtagaagtagaagtaccagcggtagtagaagaagaaggtgccagaagaagtagaagaa
                                                                                                                                           1986 GGATGAGCAGCAGCAGGATGAGCAGCAGGATGAGCAGCAGCAGCAGCAGCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gaaccaacaggaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2046 GGATGAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGGATGAGCAGGACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gaagtggaagagtacctgcagaagtagaagtggaagtggaagatacctgcagaagtagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2148 gaagtggaagaggtaccagaagaagtagaagaggtacccgcagaagtagaagagggaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2286 GGAGGAGCAGGAGCAGGAGTTAGAGGAGCAGGAGCAGGAGTTAGAGGATCAGGAGCAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 20, Application US/08770379
Patent No. 5849564
GENERAL INFORMATION:
APPLICANT: Chang, Yuan
APPLICANT: Bohenzky, Roy A.
APPLICANT: Russo, James J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2466 GCAGGAGTTAGAGGAGCAG 2484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2448 gaagaagatatacaattag 2466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 5
US-08-770-379-20/c
                                                        1608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2226
                                                                                    1626
                                                                                                                 1668
                                                                                                                                                                                                                                                                                          1848
                                                                                                                                                                                                                                                                                                                                                                                                         1968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2388
                           qq
                                                                                                                                                                                                                                                          g
 ò
                                                         ŏ
                                                                                   셤
                                                                                                                ò
                                                                                                                                          g
                                                                                                                                                                         ò
                                                                                                                                                                                               g
                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ŏ
                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                ογ
                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
```

```
20970 GAGGATGACGAGGAGGATGACGAGGAGGATGACGAGGAGGATGACGAGGAGGAGGATGACGAG 20911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20791 CGAGGAGGATGACGATGATGAGGACAATGAGGACGAGGAGGATGACGAGGAGGAGGACAA 20732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20551 GCAGGAGCCACAACAGCAGGAGCCACAGCAGCAGGAGCCCTGCAGGAGCCACACAGA 20492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAAGGAGGACGAGGACGGGGGGGGATGGAAACAAAACGTTGAGCATCCAAAGTTCACA 20672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1191 ccagaggatggatttcgcattagacgaaactgcagaaggagaaaacagaagaaacgtagag 1250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ggagaagaaacagaagaagctgcagaaggagaagtatcagaagaaactccagaaggagaa 1310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gaagagttagaggcaactccagaggatgatttcgcattagatggaactacattagaagaa 1370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1011 gaagagcccgcgcaagtaccagcggaagaattagatgccactccagaggatgacttcgca 1070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1071 ttagatgttacagaatctcccgaggaagtagaattagtattagatgaagaggcaactgaa 1130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1371 accgaagaaactgcagaaggagaagaaccgtagagggag---aagaaaccgtagaggga 1427
                                        FROM KAPOSI'S SARCOMA-ASSOCIATED
DNA ENCODING SAME AND USES THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gaagaatcaacggaagtgggaccaacggaagaaggaccaaccgaagaattagatgccact
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ₹;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 32207;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                     SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/770,379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 199; DB 2; L
Pred. No. 4.2e-27;
0; Mismatches 770;
                                                                                                                     ADDRESSEE: Cooper & Dunham LLP
STREET: 1185 Avenue of the Americas
                                                                                                                                                                                                                                                       MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
                                    TITLE OF INVENTION: POLYPEPTIDES TITLE OF INVENTION: HERPESVIRUS, NUMBER OF SEQUENCES: 20
                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: White, John P.
REGISTRATION NUMBER: 28,678
REFERENCE/DOCKET NUMBER: 5234;
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; MOLECULE TYPE: DNA (genomic)
US-08-770-379-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 6.0%;
Best Local Similarity 46.9%;
Matches 685; Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE: (212) 278-0400
TELEFAX: (212) 391-0525
INFORMATION FOR SEQ ID NO: 20:
Edelman, Isidore
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 32207 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
                     Moore, Patrick
                                                                                                  CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            linear
                                                                                                                                                             CITY: New York STATE: New York
                                                                                                                                                                                                      U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE:
                                                                                                                                                                                                                         10036
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY:
                                                                                                                                                                                                    COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          pp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     á
```

σ

```
20131 GGATGAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCAGCAGCA 20072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19831 GCAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCAGCAGCAGGATGAGCA 19772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCAGCAGGATGAGCAGCAGCAGCAGGATGAACAGGAGCAGCAGGAGGAGCAGCAGCAGCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19651 GTTAGAGGAGCAGGAGCAGGAGTTAGAGGAGCAGGAGCAGGAGTTAGAGGAGCAGGAGCA 19592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20011 GGATGAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCA 19952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19591 GGAGTTAGAGGAGCAGGAGCAGGAGTTAGAGGAGCAGGAGCAGGAGTTAGAGGAGCAGGA 19532
                                                                                                                                                                                                                                                                                                                                                                                                                                                               1908 ttagtattagaaggagaaggagaaccaacggaagaagaggccaaggagagccaaca 1967
                                                                                                                                                                                                                                                                                                                              1788 cctgtacaagtaccagtggcagtagggcccgcgaaagtgccaacggaagaattgatg 1847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gaaggagaagtgccagaagaagaattagaggcaactccagaggacgatttcgaattagaa 2027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gaggtaccagaagaagtggaagaggtaccagaagaagtggaagagtaccagaagaagtg 2267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gtagtagaagtagaagtaccagcggtagtagtagaagaagaggtgccagaagaagtagaagaa 2387
                                                                                                                                                                                                gttgatatcttagataacgatttaacgtatgcagacattacatcctttgagccattattt 1727
                                                                                                                                                                                                                                                                                                                                                                                                 gaagaagaagaagaaccagtagaggaagaagatgtattacaattagtaataccatcg 2447
gaggatgacttccaattagaagaaccatcaggagaaggagaaggggaaggagaaggagaa
                                                                                                                               gtgactcctgctcagcctgtcaaaccaatggtcgctccaacggcagatgaaactttattc
                                                                                                                                                                                                                                                             1728 aaacaaatcctcaaggatcctgatgcaggagggtgtaacagtaccatcaaaggaagca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gaaccaacaggagaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggagaa
                                                               gggaaaggagaaggagttagtagcagtgccagtagtggccgaaccggtagaagta
                                                                                                                                                                                                                                                                                                                                                               20191 GGATGAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCAGCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gaagaggtaccagaaggaagtggaagtggaagaagtagaagaagtagaagtaccagcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gaagtggaagaggtacctgcagaagtagaagaagtggaagaggtacctgcagaagtagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gaagtggaagaggtaccagaagaagtagaagaggtacccgcagaagtagaagtggaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gaagaagatatacaattag 2466
                                                                                                                                                                                             1668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2448
1488
                                                                                                                             1608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2148
S
                           8
                                                             à
                                                                                      8
                                                                                                                           ò
                                                                                                                                                       용
                                                                                                                                                                                        ò
                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                            õ
                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   õ
```

```
20910 GAGGATGACGAGGAGGATGACGAGGAGGATGACGAGGAGGATGACGAGGAGGAGG-ATGACGA 20852
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20791 CGAGGAGGATGACGATGATGAGGACAATGAGGACGAGGAGGATGACGAGGAGGAGGAGAAA 20732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20731 GAAGGAGGACGAGGAGGAGGGGGGGGGTGGAAACAAAACGTTGAGCATCCAAAGTTCACA 20672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1071 ttagatgttacagaatctcccgaggaagtagaattagtattagatgaagaggcaactgaa 1130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ggagaagaaacagaagaagctgcagaaggagaagtatcagaagaaactccagaaggagaa 1310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1311 gaagagttagaggcaactccagaggatgatttcgcattagatgatgaactacattagaagaa 1370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1011. gaagagcccgcgcgaagtaccagcggaagaattagatgccactccagaggatgacttcgca 1070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20970 GAGGATGACGAGGATGACGAGGAGGATGACGAGGAGGATGACGAGGAGGATGACGAG 2091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1371 accgaagaaactgcagaaggagaagaaaccgtagagggag---aagaaaccgtagagga 1427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ccagaggatggatttcgcattagacgaaactgcagaaggagaaaaaagaaaacgtagag
                                 APPLICANT: Russo, James J.
APPLICANT: Edelman, Isidore S.
APPLICANT: Moore, Patrick S.
ATITLE OF INVENTION: UNIQUE ASSOCIATED KAPOSI'S SARCOMA VIRUS TITLE OF INVENTION: SEQUENCES AND USES THEREOF NUMBER OF SEQUENCES: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 32207;
                                                                                                                                                                                                                                                                                                                                         COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/757,669A
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; DB 4;
4.2e-27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 199; DB
Pred. No. 4.2e-
0; Mismatches
                                                                                                                                                                                     ADDRESSEE: Cooper & Dunham LLP
STREET: 1185 Avenue of the Americas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTORNEY/AGENT INFORMATION:
NAME: White, John P.
REGISTRATION NUMBER: 28,678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEPHONE: (212) 278-0400
TELEFAX: (212) 391-0525
INFORMATION FOR SEQ ID NO: 20: SEQUENCE CHARACTERISTICS: LENGTH: 32207 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE/DOCKET NUMBER: 45
TELECOMMUNICATION INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                . 6.08;
    Chang, Yuan
Bohenzky, Roy A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 46.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity 46.9
Matches 685; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         double
                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION: 424
                                                                                                                                                                                                                                                 New York
: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              linear
                                                                                                                                                                                                                           New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             , MOLECULE TYPE:
US-08-757-669A-20
                                                                                                                                                                                                                                                                                                                                 MEDIUM TYPE:
                                                                                                                                                                                                                                                                                    10036
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TOPOLOGY:
                                                                                                                                                                                                                                                                 COUNTRY:
                                                                                                                                                                                                      STREET:
CITY: Ne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
```

ä

; Sequence 20, Application US/08757669A

US-08-757-669A-20/c

```
GCAGCAGGATGAGCAGCAGCAGCAGGAGGATGAACAGGAGCAGCAGGAGGAGCAGGAGCAGCA 19712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGAGTTAGAGGAGCAGGAGCAGGAGTTAGAGGAGCAGGAGCAGGAGTTAGAGGAGCAGGA 19532
                                                                                                                                                                                                                                                                                GGATGAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCA 20072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20011 GGATGAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCA 19952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGATGAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGGAGCA 19892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTTAGAGGAGCAGGAGTTAGAGGAGCAGGAGCAGGAGTTAGAGGAGCAGGAGCA 19592
                                                                                                                                                                                                gtgactcctgctcagcctgtcaaaccaatggtcgctccaacggcagatgaaactttattc 1667
                                                                                                ggggaaggagaggagagcgttagtagcagtgccagtagtggccgaaccggtagaagta
                                                                                                                                                                                                                gttgatatcttagataacgatttaacgtatgcagacattacatcctttgagccattattt
                                                                                                                                                                                                                                                                                                                                                                    cctgtacaagtaccagtggcagtagggcccgccaagaagtgccaacggaagaattgatg
                                                                                                                                                                                                                                                                                                                                                                                             GGATGAGCAGCAGCAGCAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                           caactecaagaggacgatttegaattagaaggaaetgeagaagetecagaggaaggagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ttagtattagaaggagaagaaccaacggaagaagaagagagaaggaaggagccaaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gaaggagaagtgccagaagaagaattagaggcaactccagaggacgatttcgaattagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gaaccaacaggagaagaagtagaagaaaccgtagagggcgaagaactgcagaaggagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gaagtggaagaggtaccagaagaagtagaagaggtacccgcagaagtagaagtggaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gaggtaccagaagaagtggaagagtaccagaagaagtggaagaggtaccagaagagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gaagaggtaccagaaggaagtggaagaagtggaagaagtagaagaagtagaggtaccagcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gtagtagaagtagaagtaccagcggtagtagaagaagaagaggtgccagaagaagtagaagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gaagaagaagaagaaccagtagaagaagaagatgtattacaattagtaataccatcg
                                                                                                                                                                                                                                                                                                             aaacaaatcctcaaggatcctgatgcaggagaggctgtaacagtaccatcaaaggaagca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19531 GCAGGAGTTAGAGGAGCAG 19513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gaagaagatatacaattag 2466
                                                                                 1488
                                                                                                                                         1548
                                                                                                                                                                                              1608
                                                                                                                                                                                                                                                       1668
                                                                                                                                                                                                                                                                                                                                                                   1788
                                                                                                                                                                                                                                                                                                                                                                                                                                                     20131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19711
                                                     g
                                                                                                           g
                                                                                                                                                                 g
                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     q
                            ò
                                                                                 ò
                                                                                                                                         ð
                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ô
```

```
APPLICANT: Chang, Yuan
APPLICANT: Bohenzky, Roy A
APPLICANT: Bohenzky, Roy A
APPLICANT: Belenach Isidore S
APPLICANT: Russo, James J
APPLICANT: Gelman, Isidore S
APPLICANT: Moore, Patrick S
TITLE OF INVENTION: UNIQUE ASSOCIATED KAPOSI'S SARCOMA VIRUS SEQUENCES AND
TITLE OF INVENTION: USES THEREOF
FILE REFERENCE: 45185-G-PCT-US
CURRENT PELLOR DATE: 1999-11-17
PRIOR FILING DATE: 1999-11-17
PRIOR FILING DATE: 1997-07-22
NUMBER OF SEQ ID NOS: 30
SOFTWARE: PATCHIN VET. 2.0
SEQ ID NO 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20791 caaggaggargacgargargaggacaargaggacgaggaggargacgaggaggaggacaagacaa 20732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20551 GCAGGAGCCACAACAGCAGGAGCCACAGCAGGAGCCCCTGCAGGAGCCACAACAACAGCA 20492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20970 GAGGATGACGAGGAGGATGACGAGGAGGATGACGAGGAGGATGACGAGGATGACGAG 20911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gaagagttagaggcaactccagaggatgatttcgcattagatggaactacattagaagaa 1370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ggggaaggagaaggagaagcgttagtagcagtgccagtagtggccgaaccggtagaagta 1607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gaagagcccgcgcaagtaccagcggaagaattagatgccactccagaggatgacttcgca 1070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1131 gaagaatcaacggaagtgggaccaacggaagaagaagccaaccgaagaattagatgccact 1190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1191 ccagaggatggatttcgcattagacgaaactgcagaaggagaaaaaaagaagaaggag 1250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ggagaagaaacagaagaagctgcagaaggagagagtatcagaagaaactccagaaggagaa 1310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gtgactcctgctcagcctgtcaaaccaatggtcgctccaacggcagatgaaactttattc 1667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1071 ttagatgttacagaatctcccgaggaagtagaattagtattagatgaagaggcaactgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20731 GAAGGAGGACGAGGAGGACGGGGGGGGGATGGAAACAAAACGTTGAGCATCCAAAGTTCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gaagaaaccgtagaggagagaagctgcagaaggagaagaagaagttagaggcaactcca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 32207;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ouery Match 6.0%; Score 199; DB 4; L
Best Local Similarity 46.9%; Pred. No. 4.2e-27;
Matches 685; Conservative 0; Mismatches 770;
                                                                                                                                                                                                                                                                                                                                                                                                      ; TYPE: DNA; Caposi's sarcoma-associated herpesvirus US-09-230-371A-20
                  Sequence 20, Application US/09230371A Patent No. 6348586 GENERAL INFORMATION:
US-09-230-371A-20/c
                                                                                                                                                                                                                                                                                                                                                                                   32207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                op
O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          οχ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
```

.. \*

```
20011 GGATGAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCAGCAGGATGAGCAGCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19771 GCAGCAGGATGAGCAGCAGCAGCAGGATGAACAGGAGCAGCAGGAGGAGCAGGAGCAGCAGCA 19712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19711 GGAGGAGCAGGAGCAGGAGTTAGAGGAGCAGGAGCAGGAGTTAGAGGATCAGGAGCAGGA 19652
                                                                                                                                                                                                                                                                                                                                   20071 GGATGAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCA 20012
                                                                                                                                                                                                                                                                                                    1728 aaacaaatcctcaaggatcctgatgcaggaggctgtaacagtaccatcaaaggaagca 1787
                                                                                                                                                                           cctgtacaagtaccagtggcagtagggcccgcgcaagaagtgccaacggaagaattgatg 1847
                                                                                                                                                                                                                                        gaagtggaagaggtaccagaagaagtagaagaaggtacccgcagaagtagaagtaggaa 2207
                                              1668 gitgatatottagataacgatttaacgtatgcagacattacatcotttgagccattattt
                                                                                                                                         20131 GGATGAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCA
                                                                                                                                                                                                                                                                                                                                                                      gaaggagaagtgccagaagaagaattagaggcaactccagaggacgatttcgaattagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gaagaggtaccagaagaagtggaagaagtggaagaagtagaagaagtagaagtaccagcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19651 GTTAGAGGAGCAGGAGCTGAGAGCAGGAGCAGGAGCAGGAGTTAGAGGAGCAGGAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GCAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCAGCAGGATGAGCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gtagtagaagtagaagtaccagcggtagtagaagaagaaggtgccagaagaagtagaagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gaagaagaagaagaaccagtagaggaagaagatgtattacaattagtaataccatcg
                                                                                                                                                                                                                                                                                                                                                                                                                                    gaaccaacaggaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gaagtggaagaggtacctgcagaagtagaagtggaagaggtacctgcagaagtagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Patent No. 5231168
APPLICANT: DZIEGIEL, MORTEN; BORRE, MARTIN; JEPSEN, SOR; VUUST, JENS; RIENECK, KLAUS; WIND, ANNETTE; JAKOBSEN, PALLE; TITLE OF INVENTION: MALARIA ANTIGEN
NUMBER OF SEQUENCES: 19
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/409,658
FILING DATE: 18-SEP-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2448 gaagaagatatacaattag 2466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 3095
5231168-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NO:1
                                                                                                                                         20251
                                                                                                                                                                         1788
                                                                                                                                                                                                                                        1848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           19831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5231168-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ ID
             8
                                                                                                                                   g
                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                            ò
                                                                         8
                                                                                                      õ
                                                                                                                                                                       ö
                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                õ
                                                                                                                                                                                                                                                                                                                                                                                                                                õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
```

```
1256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1076
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1137 tcaacggaagtgggaccaacggaagaagaaggaccaaccgaagaattagatgccactccagag 1196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gaaggaagaagcgttagtagcagtgccagtagtggccgaaccggtagaagtagtgactcct 1616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           958 ttagatttagatcataaaaacagttgatccagaaatagtagaagttgaagaaattccttca 1017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  777
                                                                                                                                                                                                                                                                                                                                                                                       926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gttccttcaaaaaccatttgaagaaattgaaaaagtggatgttcaacctaaaattgtagac 717
                                                                                                                                                           76 gaagaaattgtacctgaacaaaataatgaagaatcaggtgaaagtaaattagttgataat 135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ccatcatttgtcaaaattgaaaaagttccttctgaagaaaataaacatgcaagtgttgat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gaatcagttgaagaaattccagtaaatgaggatgaatttgaagatgttcacactgaacaa
                                                               gaaactggcgatttggaagcaggggaagaaactggcgatttggaagcaggggaagaagct
                                                                                            16 gaaaaaagcgagcatgaagcagctgaaaatgaagaaagtagtcttgaagaaggccatcat
                                                                                                                               ggtgatttggaagcaggggaagaactggcgatttggaagcaggggaagaactggagat
                                                                                                                                                                                             goggaaactgaagaaggagcaactggagatgcggaaactgaaaatggagcaactgtgtat
                                                                                                                                                                                                                           gtagacacagaagatagttcagctgatggagcagaaaaagtacatgttcctgctcaagaa
                                                                                                                                                                                                                                                                                        196 gaattaaatgaaatgaatttgttgaatctgacaaaagtgtaactgaacctgctgaacat
                                                                                                                                                                                                                                                                                                                         aatgtacaacctgccgatagtaatgatgccctctttggaagtattttggataaagatata
                                                                                                                                                                                                                                                                                                                                                       gaagaa----gttgtatctgaagaaagcaaccctgaaccagctgaaaatgaagaaagt
                                                                                                                                                                                                                                                                                                                                                                                       atttttgatcatattaaagatttcgagccactattcgaacaaattgtggcgggtactgct
                                                                                                                                                                                                                                                                                                                                                                                                                                                      aaacatgttacgggacaagaattgccaatgaaacctgtaccattaccagtggcagaagag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cccgcgcaagtaccagcggaagaattagatgccactccagaggatgacttcgcattagat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gaacctgatcaaaatgactctgaattaagtgaaatgaattagttgaatcagaaaaagt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gttacagaatctcccgaggaagtagaattagtattagatgaagaggcaactgaagaagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           490 gtatotgaaccagotgaacatgtagaaattgtatcagaaaaagtgtatotgaaccagot
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gaacacgtagaaattgtatctgaaaaagtacatccgaa------ccagctgaaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gatggatttcgcattagacgaaactgcagaaggagaaacagaagaaacgtagagggagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ttagaggcaactccagaggatgatttcgcattagatggaactacattagaagaaaccgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cttcaaataattgaacctaattttgttgactcacaaccaaatccacaagaaccagttgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gaaactgcagaaggagaaaccgtagaggagaaaaaccgtagagggagaaaacc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gtagagggagaagatgcagaaggagaagaagaagttagaggcaactccagaggatgac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ttccaattagaagaaccatcaggagaaggagaaggggaaggaggaagggaagga
                                 21;
   Length 3095;
                                 Indels
 Score 175; DB 6;
Pred. No. 4.9e-23;
0; Mismatches 1020;
5.2%;
ilarity 44.9%;
Conservative
                al Similarity
848; Conserv
 Query Match
Best Local S
Matches 848
                                                                                                                                                                                                                                                                                                                                                                                     897
                                                                                                                                                                                                                                                                                                                                                                                                                                                    957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1497
                                                                597
                                                                                                                                                                                                                                                                                                                       837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                838
                                                                                                                            657
                                                                                                                                                                                                                                                        111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1077
                                                                                                                                                                                           717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                            g
                                                                                                                            ò
                                                                                                                                                        D.
                                                                                                                                                                                         ò
                                                                                                                                                                                                                  Op
                                                                                                                                                                                                                                                        Qγ
                                                                                                                                                                                                                                                                              OD
                                                                                                                                                                                                                                                                                                            οy
                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Dβ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Op
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δy
```

```
Sequence 2, Application US/08973462B
Patent No. 6191270
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: DRUILHE, PIERRE
APPLICANT: DAUBERGIES, PIERRE
TITLE OF INVENTION: MALARIAL PRE-ERYTHROCYTIC STAGE POLYPEPTIDE MOLECULES
FILLE REFERENCE: 0660-0125-0 pcT
CURRENT APPLICATION NUMBER: US/08/973,462B
CURRENT FILING DATE: 1998-02-06
                                                                                                                                                                      cagcatgaaatagtagaagtagaagaaatacttccagaagatgataaaaaatgaaaagtt 1197
                                                                                                                                                                                                                                                                             gaaatagtagaggttgaagaaattctaccagaagataaaaatgaaaaagttgaacatgaa 1437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1438 atagtagaagttgaagaaattctaccagaagataaaaatgaaaaaggtcaacatgaaata 1497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gtagaggttgaagaaattctaccagaagataaaaatgaaaaagttcaacatgaaatagta 1557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gaagttgaagaaattctaccagaagataaaaatgaaaaaggtcaacatgaaatagtagag 1617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gaaattetteeagaaattgttgaaattgaagaagtaeeateacaaacaaataaeaatgaa 1857
                                                                                                                                                                                                                                                                                                                                                geteageetgteaaaceaatggtegeteeaaeggeagatgaaaetttattegttgatate
                                 gaactacatgaaaatgaagtggctcatccagaaattgttgaaattgaggaagtttttcct
                                                                   ttagataacgatttaacgtatgcagacattacatcctttgagccattatttaaacaaatc
                                                                                                    gaaccaaatcaaaataacgaatttcaagaaattaatgaagatgataaaagtgcacatatt
                                                                                                                                       ctcaaggatcctgatgcaggagaggctgtaacagtaccatcaaaggaagcacctgtacaa
                                                                                                                                                                                                           gtaccagtggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaactccaa
                                                                                                                                                                                                                                           gaacatgaaatagtagaagttgaagaattctaccagaagataaaaatgaaaaaggtcaa
                                                                                                                                                                                                                                                                                             catgaaatagtagaagttgaagaaattctaccagaagataaaaatgaaaaaggtcaacat
                                                                                                                                                                                                                                                                                                                                                                                                                gtgccagaagaagtagtagaggcaactccagaggacgattcgaattagaagaaccaaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ggagaagaagtagaagaaaccgtagagggcgaagaaactgcagaagg---agaagaagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gaagaggtacctgcagaagtagaagtggaagaggtacctgcagaagtagaagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gaagaggtaccagaagaagtagaaggaggtacccgcagaagtagaagaggtgaagaggta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ccagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gttgaagaaattctaccagaagaagataaaaatgaaaaaggtcaacatgaaatagtagag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gtaccagaagaagtggaagaagtggaagaagtagaagaagtaggaaggtaccagcggtagta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gatatacaattagacaaaccaaagaaaga 2482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SULT 9
-08-973-462-2
1617
                                                                                                                                      1737
                                                                                                                                                                                                        1797
                                                                                                                                                                                                                                                                            1857
                                                                                                                                                                                                                                                                                                            1258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2454
ò
                                g
                                                                  δy
                                                                                            Op
                                                                                                                                  ò
                                                                                                                                                             g
                                                                                                                                                                                             δ
                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                                                                                                                       5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        οý
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
```

```
gggtactgctaaacatgttacgggacaagaattgccaatgaaacctgtaccattaccagt 1006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ggcagaagagcccgcgcaagtaccagcggaagaattagatgccactccagaggatgactt 1066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            tgaagaagtaaaggaaaaattcttgacttattagaagaaggaaatacattaactgaaag 365
                                                                                                                                                                                                                                                                                                                                                                                                            tgaggaagtcaacgaaacgttagatggaggtgaatcattaggagaggtttccactgaaga 466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tatggaaggaagaagaagctggcgatatggaagcaggggaagaagctggtgatttgga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         780 agaaagtatagcttcaagtgttgatgaaagtatagattcaagtattgaagaaaatgtagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tatggaaacagaagatggctcaacagatgatacggaaacagaagaaggactacctggtga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ggaagaagctggtgatttggaagcaggggaagaactggcgatttggaagcaggggaaga | | | | | | | | | | | | | |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                aactggagatgcggaaactgaagaaggagcaactggagatgcggaaactgaaaatggagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   tgttgaagaaaagttgaagaaagtgtagaagaaaatgacgaagaaagtgtagaagaaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                tgtagaagaaaatgtagaa----gaaaatgacgacggaagtgtagcctcaagtgttga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        taaagatataatttttgatcatattaaagatttcgagccactattcgaacaaattgtggc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tgaagaaagtgtagaagaaaatgttgaagaaagtgtagctgaaaatgttgaagaaagtgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     957 agctgaaaatgttgaagaaagtgtagctgaaaatgttgaagaaagtgtagctgaaaatgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tgaagaaatcgtagctccaactgttgaagaaatcgtagctccaactgttgaagaaattgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tgtagatgataataaaaaatttagaagaagccgaagatataaaggaaaatatcttattaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            agcaggggaagaaactggcgatttggaagcaggggaagaaactggcgatttggaagcagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      agttaatgacgatatttttaatagtttagtaaaaagtgttcaacaagaacaacaacaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             aactgtgtatgtagacacagaagatagttcagctgatggagcagaaaagtacatgttcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tgctcaagaaaatgtacaacctgccgatagtaatgatgccctctttggaagtattttgga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cgcattagatgttacagaatctcccgaggaagtagaattagtattagatgaagaggcaac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 840 tecaaetgttgaagaaategtagetecaagtgt---tgtagaaagtgtggetecaagtgt
                                                                                                                                                                                                                                                                                                                           Score 170.2; DB 4;
Pred. No. 4e-22;
); Mismatches 1138;
EARLIER APPLICATION NUMBER: PCT/FR96/00894
EARLIER FILING DATE: 1996-06-12
EARLIER APPLICATION NUMBER: FR 95/07007
EARLIER OF SEQ ID NOS: 29
SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                  .
0
                                                                                                                                                                                                                                                                                                                           Query Match 5.1%;
Best Local Similarity 44.1%;
Matches 911; Conservative
                                                                                                                                                                TYPE: DNA ORGANISM: P. falciparum
                                                                                                                                                                                                                    ) NAME/KEY: CDS
; LOCATION: (1)..(5361)
US-08-973-462-2
                                                                                                  SOFTWARE: Pater
SEQ ID NO 2
LENGTH: 5361
                                                                                                                                                                                                        FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                               306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                726
                                                                                                                                                                                                                                                                                                                                                                                                          407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1187
                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qγ
```

```
TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      827
 2151
                                                                                                          2271
                                                                                                                                     2444
                           2324
                                                     2211
                                                                                2384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                        ò
                                                   g
                                                                               ò
                                                                                                       g
                                                                                                                                     ò
                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               οy
                                                                                                                    agctgaaaatgttgaagaaagtgtagctgaaaatgttgaagaaagtgtagctgaaaatgt 1256
                                                                                                                                                                                                                         ---agtgactcctgctcagcctgtcaaaccaatggtcgctccaacggcagatgaaacttt 1663
                                                                                                                                                                                                                                                                                                                                                                                                                                            agcacctgtacaagtaccagtggcagtagggcccgcgcaagaagtgccaacggaagaatt 1843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1677 agctgaaaatgttgaagaaagtgtagctgaaaatgttgaagaaagtgtagctgaaaatgt 1736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gatgcaactccaagaggacgatttcgaattagaaggaactgcagaagctccagaggaagg 1903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tgaagaaagtgtagctgaaaatgttgaagaaatcgtagctccaactgttgaagaaatcgt 1796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    aagtgttgaagaaagtgtagaagaaaatgttgaagaaagtgtagctgaaaatgttgaaga 1910
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1971 aactgitgaagaaatcgiagciccaactgitgaagaaaitgiagciccaagigiigiaga 2030
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2144 agaagaagtggaagaggtaccagaagaagtagaagaaggtacccgcagaagtagaagt 2203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           aaatgttgaagaaagtgtagctgaaaatgttgaagaaagtgtagctgaaaatgttgaaga 2150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      agtggaagaggtaccagaagaagtggaagaagtggaagaagtagaagtagaggtacc 2323
| | | | | | | | | | | | | | | |
                                                                   tgaagaaaagtgtagctgaaaatgttgaagaaagtgtagctgaaaaatgttgaagaaagtgt 1196
                                                                                                                                                                            tgaagaaatcgtagctccaactgttgaagaaatcgtagctccaactgttgaagaaattgt 1316
                                                                                                                                                                                                         agaagaaaccgtagaggagaagaagctgcagaaggagaagaagaagttagaggcaactcc 1486
                                                                                                                                                                                                                                                             agaggatgacttccaattagaagaaccatcaggagaaggagaaggggaaggagaaggaga 1546
                                                                                                                                                                                                                                                                                                                   aggggaaggaaggagaagcgttagtagcagtgccagtagtggccgaaccggtagaagt 1606
                                                                                                                                                                                                                                                                                                                                             agctgaaaatgttgaagaaagtgtagctgaaaatgttgaagaaagtgtagctgaaaatgt 1496
                                                                                                                                                                                                                                                                                                                                                                                                  tgaagaaagtgtagctgaaaatgttgaagaaagtgtagctgaaaaatgttgaagaaatcgt 1556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   atttaaacaaatcctcaaggatcctgatgcaggagaggctgtaacagtaccatcaaagga 1783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   agaattagtattagaaggaggaggagaaccaacggaagaagaggccaagagagagaggc 1963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         aacagaaggagaagtgccagaagaagtaagaggcaactccagaggacgatttcgaatt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tgtagaaagtgtggctccaagtgttgaagaaagtgtagaagaaaatgttgaagaaagtgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      aagtgtggctccaagtgttgaagaaagtgtagaagaaaatgttgaagaaagtgtagctga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ggaagaggtaccagaaggaagtggaagaggtaccagaagaagtggaagaggtaccagaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                agaagaaccaaccaggagaagaagtagaagaaaccgtagagggggaagaaactgcagaagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     agaagaagtagaagagtacctgcagaagtagaagtggaagaggtacctgcagaagt
|||||| | || || | | | | || || agctccaagtgttgaagaaagtgttgaagaaaatgt
                                                                                                                                                  agaaaccgaagaaactgcagaaggagaaaaccgtagagggagaagaaacgtagagg
                                                                                                                                                                                                                                                                                                                                                                                                                               attcgttgatatcttagataacgatttaacgtatgcagacattacatcctttgagccatt
                                         agaggagagaagaacagaagctgcagaaggagaagtatcagaagaaactccagaagg
                                                                                              agaagaagagttagaggcaactccagaggatgatttcgcattagatggaactacattaga
           1077
                                                                                                                                                                                                                                                                                     1377
                                                                                                                                                                                                                                                                                                                                                                                                                                                        1557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2024
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2264
                                                                  1137
                                                                                                                       1197
                                                                                                                                                                                                                                 1317
                                                                                                                                                                                                                                                                                                                  1547
                                                                                                                                                                                                                                                                                                                                             1437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2084
                                                                                                                                                  1367
                                                                                                                                                                              1257
                                                                                                                                                                                                       1427
                                                                                                                                                                                                                                                             1487
                                                                                                                                                                                                                                                                                                                                                                         1607
                                                                                                                                                                                                                                                                                                                                                                                                  1497
                                                                                                                                                                                                                                                                                                                                                                                                                            1664
                                                                                            1307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
              g
                                        õ
                                                               Q
                                                                                          ò
                                                                                                              q
                                                                                                                                               ò
                                                                                                                                                                      g
                                                                                                                                                                                                ò
                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                            õ
                                                                                                                                                                                                                                                                                                                                                                       õ
                                                                                                                                                                                                                                                                                                                                                                                                                            ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ç
```

```
APPLICANT: DAUBERSIES, PIERRE
APPLICANT: DAUBERSIES, PIERRE
APPLICANT: DAUBERSIES, PIERRE
APPLICANT: DAUBERSIES, PIERRE
TITLE OF INVENTION: MALBRIAL PRE-ERYTHROCYTIC STAGE POLYPEPTIDE MOLECULES
FILE REFERENCE: 0660-0125-0 PCT
CURRENT FILING DATE: 1998-02-06
EARLIER APPLICATION NUMBER: PCT/FR96/00894
EARLIER FILING DATE: 1996-06-12
EARLIER PILING DATE: 1996-06-13
NUMBER OF SEQ ID NOS: 29
SOFTWARE: PATENTING DATE: 1996-06-13
aagtgtagctgaaaatgttgaagaaatcgtagctccaactgttgaagaaatcgtagctcc 2210
                                                                                                                                                                                               tatggaaacagaagatggctcaacagatgatacggaaacagaagaaggactacctggtga 526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           707 aactggagatgcggaaactgaagaaggagcaactggagatgcggaaactgaaaatggagc 766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   tgaggaagtcaacgaaacgttagatggaggtgaatcattaggagggtttccactgaaga 466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       550 tgaagaagtaaaggaaaaaattcttgacttattagaagaaggaaatacattaactgaaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    agaagaagaagaagaagaaccagtagaggaagaagaatgtattacaattagtaatacc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  tgtagatgataataaaaatttagaagaagccgaagatataaaggaaaatatcttattaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            670 taatatagaagccaaaagaaatattattgacaatttattaaataatattggacaaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    agcagggaagaaactggcgatttggaagcaggggaagaaactggcgatttggaagcagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         730 ttcagaaaaacaagaaagtgtatcagaaaatgtacaagtcagtgatgaactttttaatga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ggaagaagctggtgatttggaagcagggaagaaactggcgatttggaagcagggaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         agttaatgacgatattttaatagtttagtaaaaagtgttcaacaagaacaacaacaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            aactgtgtatgtagacacagaagatagttcagctgatggagcagaaaagtacatgttcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   tgttgaagaaaagttgaagaaagtgtagaagaaaatgacgaagaaagtgtagaagaaaa
                                                         agcggtagtagaagtagaagtaccagcggtagtagaagaagaaggtgccagaagaagtaga
                                                                                                              aactgttgaagaaattgtagctccaagtgttgtagaaagtgtggctccaagtgttgaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 6152;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 170.2; DB 4;
Pred. No. 4.1e-22;
0; Mismatches 1138;
                                                                                                                                                                                                                                                                                                             Sequence 1, Application US/08973462B Patent No. 6191270 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                             atcggaagaagatatacaattagacaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 5.1%;
Best Local Similarity 44.1%;
Matches 911; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; ORGANISM: P. falciparum US-08-973-462-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGIH: 6152
                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 10
US-08-973-462-1
```

٠.

```
2095
                                                                                                                                                                                                2275
                                                                                                                                                                                                                                                                                                                                                                                                                                     2444
                                                                                         2155
                                                                                                                                              2215
                                                                                                                                                                        2144
                                                                                                                                                                                                                                                                            2264
                                                                                                                                                                                                                                                                                                                                                      2455
                                                                                                                                                                                                                                                                                                                                                                                2384
                                                                                                                    2084
                                                                                                                                                                                                                          2204
                                                                                                                                                                                                                                                                                                                              2324
              1964
              ά
                                     q
                                                                  δy
                                                                                      qq
                                                                                                                   Óγ
                                                                                                                                            g
                                                                                                                                                                      ò
                                                                                                                                                                                             Q
                                                                                                                                                                                                                          δŏ
                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                òγ
                                                                                                                                                                                                                                                                                                                                                                                                          Op
                                                                                                                                                                                                                                                                                                                                                                                                                                     δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                         QQ
 ---gaaaatgacgacggaagtgtagcctcaagtgttga 1023
                                        gggtactgctaaacatgttacgggacaagaattgccaatgaaacctgtaccattaccagt 1006
                                                                                                                                                                                                                                      tgaagaagaatcaacggaagtgggaccaacggaagaagaagaccaaccgaagaattagatgc 1186
                                                                                                                                                                                                                                                   1321 agctccaagtgttgtagaaagtgtggctccaagtgttgaagaaagtgtagaagaaaatgt 1380
                                                                                                                                                                                                                                                                                                                                            agaaaccgaagaaactgcagaaggagagaagaaccgtagagggagagaagaaaccgtagaggg 1426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 agaggatgacttccaattagaagaaccatcaggagaaggagaagggaaagggaaggagaggaga 1546
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tgaagaaagtgtagctgaaaatgttgaagaaagtgtagctgaaaaatgttgaagaaagtgt 1680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             agctgaaaaatgttgaagaaagtgtagctgaaaatgttgaagaaagtgtagctgaaaatgt 1740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tgaagaaagtgtagctgaaaatgttgaagaaatcgtagctccaactgttgaagaaatcgt 2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tgaagaaagtgtagaagaaaatgttgaagaaagtgtagctgaaaaatgttgaagaaagtgt
                                                                                                                                                                                                                                                                                        cactccagaggatggatttcgcattagacgaaactgcagaaggagaaacagaagaagcgt
                                                                                                       tccaactgttgaagaaatcgtagctccaagtgt---tgtagaaagtgtggctccaagtgt
                                                                                                                                ggcagaagagcccgcgcaagtaccagcggaagaattagatgccactccagaggatgactt
                                                                                                                                                                                  cgcattagatgttacagaatctcccgaggaagtagaattagtattagatgaagaggcaac
                                                                                                                                                                                                           agctgaaaatgttgaagaaagtgtagctgaaaatgttgaagaaagtgtagctgaaaatgt
                                                                                                                                                                                                                                                                                                                                                                   tgaagaaagtgtagctgaaaatgttgaagaaagtgtagctgaaaaatgttgaagaaagtgt
                                                                                                                                                                                                                                                                                                                                                                                              agaagaagagttagaggcaactccagaggatgatttcgcattagatggaactacattaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tgaagaaatcgtagctccaactgttgaagaaatcgtagctccaactgttgaagaaattgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   agaagaaaccgtagaggagaagaagctgcagaaggagaagaagagttagaggcaactcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      aggggaaggagaaggagaagcgttagtagcagtgccagtagtggccgaaccggtagaagt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           attcgttgatatcttagataacgatttaacgtatgcagacattacatcctttgagccatt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1724 atttaaaacaaatcctcaaggatcctgatgcaggagagaggctgtaacagtaccatcaaagga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               agcacctgtacaagtaccagtggcagtagggcccgcgcaagaagtgccaacggaagaatt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1921 agctgaaaatgttgaagaaagtgtagctgaaaatgttgaagaaagtgtagctgaaaatgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gatgcaactccaagaggacgatttcgaattagaaggaactgcagaagctccagaggaagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   taaagatataatttttgatcatattaaagatttcgagccactattcgaacaaattgtggc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ---agtgactcctgctcagcctgtcaaaccaatggtcgctccaacggcagatgaaacttt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   agctccaactgttgaagaaatcgtagctccaactgttgaagaaattgtagctccaagtgt
 tgtagaagaaaatgtagaa-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1861
                                                                                                     1084
                                                                                                                               1007
                                                                                                                                                         1141
                                                                                                                                                                                 1067
                                                                                                                                                                                                           1201
                                                                                                                                                                                                                                     1127
                                                                                                                                                                                                                                                            1261
                                                                                                                                                                                                                                                                                                                                         1247
                                                                                                                                                                                                                                                                                                                                                                 1381
                                                                                                                                                                                                                                                                                                                                                                                            1307
                                                                                                                                                                                                                                                                                                                                                                                                                      1441
                                                                                                                                                                                                                                                                                                                                                                                                                                             1367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2041
                         887
                                                                           947
qq
                                                                                                  Q
                                                                                                                                                  g
                                                                                                                                                                          ò
                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                               g
                         ò
                                                g
                                                                          ò
                                                                                                                               ò
                                                                                                                                                                                                                                   οy
                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                    δŽ
                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                οŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
```

```
aagtgttgaagaaagtgtagaagaaaatgttgaagaaagtgtagctgaaaatgttgaaga 2154
                                                                                                                                                                                                                                                                         aactgttgaagaaatcgtagctccaactgttgaagaaattgtagctccaagtgttgtaga 2274
                                                                                                                                                                aagtgtagctgaaaatgttgaagaaagtgtagctgaaaaatgttgaagaaatcgtagctcc 2214
aacagaaggaagtgccagaagaagaattagaggcaactccagaggacgatttcgaatt
                                                                                                                                                                                                                      agaagaagtggaagaggtacctgcagaagtagaagtggaaggggtacctgcagaagt
                                                                                                                                                                                                                                                                                                                                                               agaagaaccaacaggagaagaagtagaagaaaccgtagaggcgaagaaactgcagaagg
                                                                                                                                                                                                                                                                                                                                   agaagaagtggaagataccagaagaagtagaagaaggtacccgcagaagtagaagt
                                                                                                                                                                                                                                                                                                                                                                                                                                            ggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                aaatgttgaagaaagtgtagctgaaaatgttgaagaaagtgtagctgaaaatgttgaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      agtggaagaggtaccagaagaagtggaagaagtggaagaagtagaagtagaggtacc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             agaagaagaagaagaagaaccagtagaggaagaagatgtattacaattagtaatacc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2515 aagtgtagaagaaaatgttgaagaaagtgtagctgaaaatgttgaagaaagtgtagctga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       aagtgtagctgaaaatgttgaagaaatcgtagctccaactgttgaagaaatcgtagctcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                agcggtagtagaagtagaagtaccagcggtagtagaagaagaggtgccagaagaagtaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Protein Interaction Cloning
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE: Flehr, Hohbach, Test, Albritton
STREET: 4 Embarcadero Center, Suite 3400
CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME: Silva, Robin M.
REGISTRATION NUMBER: 38,304
REFERENCE/POCKET NUMBER: A-65638/DJB/RMS
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
TELEFAX: (415) 949-8711
INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    atcggaagaagatatacaattagacaa 2470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2575 aaatgttgaagaaagtgtagctgaaaa 2601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SYSTEM: PC-DOS/MS-DOS
PatentIn Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  us/09/050,863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 2, Application US/09050863
Patent No. 6114111
GENERAL INFORMATION:
APPLICANT: Lao, Ying
APPLICANT: Hiang, Betty
APPLICANT: Payan, Don
TITLE OF INVENTION: Mammalian Prot
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-
SOFTWARE: PatentIn Release #
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30-MAR-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION DATA
APPLICATION NUMBER: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS: ADDRESSE: Flehr, Ho
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY: USA
ZIP: 94111-4187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SULT 11
-09-050-863-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STATE:
```

```
ggtacctgcagaagtagaagtagaagtggaagagtacctgcagaagtagaagaagtggaaga 2158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ggtaccagaagaagtagaagagtacccgcagaagtagaagtagaagtggaagaggtaccaga 2218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1739 caaggatcctgatgcaggagaggctgtaacagtaccatcaaaggaagcacctgtacaagt 1798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1799 accagtggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaactccaaga 1858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1919 aggagaaggagaaccaacggaagaagaagccaagagaaggaaggagaccaacagaaggagaagt 1978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   agaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggaggagaagtggaaga 2098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1979 gccagaagaagtaattagaggcaactccagaggacgatttcgaattagaagaaccaacagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 2580;
               ADDRESSEE: Flehr, Hohbach, Test, Albritton & Herbert
STREET: 4 Embarcadero Center, Suite 3400
                                                                                                                                                              SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/359,081
FILING DATE: 22-Jul-1999
CLASSIFICATION: <unknown>
                                                                                                                                                                                                                                                                                                  NAME: S11va, Robin M.
REGISTRATION NUMBER: 38,304
REFERENCE/DOCKET NUMBER: A-65638/DJB/RMS
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 167.2; DB 4;
Pred. No. 1.2e-21;
0; Mismatches 343;
                                                                                                                                   COMPUTER: IBM PC COmpatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/050,863
FILING DATE: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY: unknown

MOLECULE TYPE: DNA

SEQUENCE DESCRIPTION: SEQ ID NO:
US-09-359-081-2
                                                                                                                   MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 2580 base pairs
TYPE: nucleic acid
STRANDEDNESS: unknown
                                                                                                                                                                                                                                                                                                                                                                             TELEFAX: (415) 949-8711
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
                                            CITY: San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 5.0%;
Best Local Similarity 52.1%;
Matches 373; Conservative
                                                                        COUNTRY: USA ZIP: 94111-4187 COMPUTER READABLE FORM:
                                                          STATE: CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1739 caaggatcctgatgcaggagaggctgtaacagtaccatcaaaggaagcacctgtacaagt 1798
                                                                                                                                                                                                                                                      1799 accagiggcagtagggcccgcgcaagaagigccaacggaagaaitgaigcaactccaaga 1858
                                                                                                                                                                                                                                                                                                                  aggagaaggagaaccaacggaagaagaagccaagagaaggagagaccaacagaaggagaagt 1978
                                                                                                                                                                                                                                                                                                                                                                                                                                         gccagaagaagaattagaggcaactccagaggacgatttcgaattagaagaaccaacagg 2038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ggtaccagaagaagtagaagaggtacccgcagaagtagaagaagtggaagaggtaccaga 2218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                agaagaagtggaagaagtggaagaagtagaagaagtagaagtagaggtaccagcggtagtagaagt 2338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           agaagtaccagcggtagtagaagaagaggtgccagaagaagtagaagaagaagaagaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               agaag tggaagaggtaccagaagaag tggaagaggtaccagaagaag tggaagaggtacc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ggaagaaccagtagaggaagaagatgtattacaattagtaataccatcggaagaag 2454
                                                                                                                                                                                                                                                                                  2099 ggtacctgcagaagtagaagtggaagaggtacctgcagaagtagaagaggaaga
                                                                                                                                                                 ö
                                                                                                                                   Length 2580;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: Mammalian Protein Interaction Cloning
                                                                                                                                 Score 167.2; DB 3;
Pred. No. 1.2e-21;
0; Mismatches 343;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 2, Application US/09359081 Patent No. 6316223 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         System
                                                                                                                                 5.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hiang, Betty
Payan, Don
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQUENCES: 5
                                                                                                                                                                 Conservative
            LENGTH: 2580 base pair
TYPE: nucleic acid
STRANDEDNESS: unknown
SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Lao, Ying
                                                          unknown
                                                        ; TOPOLOGY: unknowi
; MOLECULE TYPE: DNA
US-09-050-863-2
                                                                                                                                Query Match
Best Local Similarity
Matches 373; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-359-081-2
                                                                                                                                                                                                                                                                                                                  1859
                                                                                                                                                                                                                                                                                                                                               749
                                                                                                                                                                                                                                                                                                                                                                                                         809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1289
                                                                                                                                                                                                                                                                                                                                                                             1919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    . a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                 õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
```

ö

2038

```
1756 AGGGGCAGGAGGGGCAGGAGGGGCAGGAGGAGGGGCAGGAGCAGGAGCAGGGGGCAGGAGC 1697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
APPLICANT: Zuckermann et al.
TITLE OF INVENTION: Compositions and Methods for
TITLE OF INVENTION: Polynucleotide Delivery
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Mismatches 343;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .6e-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5.0%; Score 167.2; 52.1%; Pred. No. 1.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
NAME: FUJITA, Sharon M.
REGISTRATION NUMBER: 38,459
REFERENCE/DOCKET NUMBER: 1218.002
TELECOMMUNICATION INFORMATION:
TELEPHONE: (510) 923-2706
TELERAX: (510) 655-3542
INFORMATION FOR SEQ ID NO: 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US/08/910,647 FILING DATE: CLASSIFICATION: 514
                                                                                                                                                                                                                                                                                                                                                Sequence 1, Application US/08910647; Patent No. 6251433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Chiron Corporation
                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
ADDRESSEE: Chiron Corporatio
STREET: 4560 Horton Street
CITY: Emeryville
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9600 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best_Local Similarity 52.1
Matches 373; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    inear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COUNTRY: U.S.A.
ZIP: 94608-2916
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; TOPOLOGY: 11,
; MOLECULE TYPE:
US-08-910-647-1
                                                                                                                                                                                                                                                                                                                    RESULT 14
US-08-910-647-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                    2219
                                                                                                                                                                   2339
                                                               QQ
                                                                                                                                                                                                  g
                                  ò
                                                                                                    δλ
                                                                                                                             Ob
                                                                                                                                                                  Qγ
                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                             Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ó;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2219 agaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtacc 2278
                                                                                      agaagtaccagcggtagtagaagaagaggtgccagaagaagtagaagaagaagaagaaga
                                                                                                                                                              1739 caaggateetgatgeaggagaggetgtaacagtaceateaaaggaageacetgtacaagt 1798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1799 accaginggeagtagggecegegeaagaagingeeaacggaagaaitgaigeaacteeaaga 1858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              aggagaaggagaaccaacggaagaagaagccaagagaaggagagagccaacagaaggagagat 1978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gccagaagaagaattagaggcaactccagaggacgatttcgaattagaagaaccaacagg 2038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                agaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggaggaagaagtggaaga 2098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ggaagaaccagtagaagaagaagatgtattacaattagtaataccatcggaagaag 2454
                                                                                                                                                                                                                  2099 ggtacctgcagaagtagaagaagtggaagaggtacctgcagaagtagaagtggaaga
                               agaagaagtggaagtggaagaagtagaagtagaagtagaggtaccagcggtagtagaagt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                             RESULT 13
US-09-130-114-1/C
Sequence 1, Application US/09130114
Patent No. 5976807
GENERAL INFORMATION:
APPLICANT: HOTILK, Robert A.
TILLE OF INVENTION: BY ALAIN K.
TITLE OF INVENTION: EVARYOCIC Cells Stably Expressing Genes TILLE OF INVENTION: From Multiple Transfected Episomes
FILE REFERENCE: 0867/LD903US1
CURRENT APPLICATION NUMBER: US/09/130,114
CURRENT PILING DATE: 1998-08-06
NUMBER OF SEQ ID NOS: 36
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 5452;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 167.2; DB 2; Length
Pred. No. 1.4e-21;
0; Mismatches 343; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 5.0%;
Best Local Similarity 52.1%;
Matches 373; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; ORGANISM: VEBNA
US-09-130-114-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO 1
LENGTH: 5452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: DNA
                                                                                                                                                                                                                                1289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1919
                                                               2279
                                                                                                1169
                                                                                                                                 2339
                                                                                                                                                                                                 2399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2039.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2159
                               g
                                                                                                                                                              g
                                                                                                                                                                                               à
ð
                                                                 ò
                                                                                             q
                                                                                                                               δý
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ο
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
```

```
ö
agaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtacc 2278
                                                                                                                 agaagtaccagcggtagtagaagaagaggtgccagaagaagtagaagaagaagaagaaga 2398
                                                                                                                                                                                                   1799 accagtggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaactccaaga 1858
                                         1739 caaggatcctgatgcaggagaggctgtaacagtaccatcaaaggaagcacctgtacaagt 1798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         agaagaagtggaagaagtggaagaagtagaagtagaagtaccagcggtagtagtagtagtagaagt
                                                                                                                                                                                                                                                                 2399 ggaagaaccagtagaggaagaagatgtattacaattagtaataccatcggaagaag 2454
                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 9600;
```

ö

```
TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-07-885-971-15
                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                           쉽
                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ·β
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             а
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                       οy
                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                       2038
                                                                                                                                                                                                                                                                                                                                        2279 agaagaagtggaagaagtggaagaagtagaagaagtagaagtagaggtaccagcggtagtagaagt 2338
                                                                                                                                                                                                                                                                                                                                                                                           2339 agaagtaccagcggtagtagaagaagaggtgccagaagaagtagaagaagaagaagaaga 2398
APPLICANT: Godowski, Paul J. Lokker, Nathalie A. Mark, Melanie R. TITLE OF INVENTION: SINGLE-CHAIN HEPATOCYTE GROWTH FACTOR VARIANTS CORRESPONDENCE ADDRESS: ADDRESSE: Genetech, Inc. STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1335 GGCAGGAGCAGGAGGAGGAGCAGGAGCAGGAGGAGCAGGAGCAGGAG 1390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2399 ggaagaaccagtagaggaagaagatgtattacaattagtaataccatcggaagaag 2454
                                                      aggagaaggagaaccaacggaagaagagccaagaaggagagagagagaagt
                                                                      agaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggagaagaagtggaaga
                                                                                                                                                                                                             2099 ggtacctgcagaagtagaagaagtggaagaggtacctgcagaagtagaagtggaaga
                                                                                                         gccagaagaagaattagaggcaactccagaggacgatttcgaattagaagaaccaacagg
                                                                                                                                                                                                                                                                                                                       agaagtggaagagtaccagaagaagtggaagaggtaccagaagaagtggaagaggtacc
                                                                                                                               ggtaccagaagtagaagaggtacccgcagaagtagaagaagtggaagagtaccaga
                       COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: patin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/884,811
FILING DATE: 19920518
CLASSIPFCATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 15, Application US/07884811 Patent No. 5316921 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Dreger, Ginger R. REGISTRATION NUMBER: 33,055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER: 75
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     USA
94080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-07-884-811-15
                                                                                                                                                                                                                                                                   2159
                                                                                                                                                                                                                                                                                                                      2219
                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                   ò
                                                                                                      õ
                                                                                                                                                                               qq
                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                              õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
à
                                                                                                                                                         ò
```

```
2628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GENERAL INFORMATION:
APPLICANT: GOGOWSKI, Paul J. Lokker, Nathalie A. Mark, Melanie R. TITLE OF INVENTION: HEPATOCYTE GROWTH FACTOR PROTEASE DOMAIN VARIANTS NUMBER OF SEQUENCES: 21
                                                                                                                                                                                                                                                                                                                          1739 caaggatcctgatgcaggagagagctgtaacagtaccatcaaaggaagcacctgtacaagt 1798
                                                                                                                                                                                                                                                                                                                                                              1799 accagtggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaactccaaga 1858
                                                                                                                                                                                                                                                                                                                                                                                                                                 1919 аддадааддадаассаасддаадаадаадсссаададааддададссаасадааддадада 1978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2039 agaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggagaagaagtggaaga 2098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2099 ggtacctgcagaagtagaagtagaagtggaagaggtacctgcagaagtagaagtggaaga 2158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2339 agaagtaccagcggtagtagaagaagaggtgccagaagaagtagaagaagaagaagaagaaga 2398
                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2399 ggaagaaccagtagaggaagaagatgtattacaattagtaataccatcggaagaag 2454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1979 gccagaagaagaattagaggcaactccagaggacgatttcgaattagaagaaccaacagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2159 ggtaccagaagaagtagaagaggtacccgcagaagtagaagaagtggaagaggtaccaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2219 agaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtacc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2279 agaagaagtggaagaagtggaagtagaagtagaagtagaggtaccagcggtagtagaagt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 10596;
                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                       0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 15, Application US/07885971
Patent No. 5328837
                                                                                                                                                                                                                                          5.0%;
    TELEFAX: 415/952-9811
TELEX: 910/311-7168
INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
ENGTH: 10596 bases
415/225-3216
                                                                                                                                                                                                                                          Query Match 5.0
Best Local Similarity 52.1
Matches 373; Conservative
                                                                                            LENGTH: 10596 bases
TYPE: NUCLEIC ACID
STRANDEDNESS: single
                                                                                                                                                       : TOPOLOGY: linear
US-07-884-811-15
```

```
agaaagtaccagcggtagtagaagaagaaggtgccagaagaagtagaagaagaagaagaaga 2398
                                                                                                                                                                    US-08-087-783A-15
Sequence 15, Application US/08087783A
Sequence 15, Application US/08087783A
Sequence 15, Application US/08087783A
Sequence 15, Application US/0808783A
Sequence 15, Application US/0808783A
SEGUENCE INFERRATION:
APPLICANT: Godowski, Paul J., Lokker, Nathalie A., Mark, Melanie R.
TITLE OF INVENTION: HEPATOCYTE GROWTH FACTOR VARIANTS
NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STAPE: California
COUNTRY: USA
                                                                                                                                                                                                                              2399 ggaagaaccagtagaaggaagaagatgtattacaattagtaataccatcggaagaag 2454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 10596;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 167.2; DB
Pred. No. 1.6e-21
0; Mismatches 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk COMPUTER: IBM PC COMPATIBLE OPERATING SYSTEM: PC-DOS/MS-DOS COFFWARE: WinPatin (Genetech)
CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/087,783A FLIING DATE: 13-Jul-1993
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/884811
FILING DATE: 18-MAY-92
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/885971
FILING DATE: 18-MAY-92
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: Marschang, Diane L.
REGISTRATION NUMBER: 35,600
REFERENCE/DOCKET NUMBER: P07
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/225-5416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 5.0%;
Best Local Similarity 52.1%;
Matches 373; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 10596 base pairs
TYPE: Nucleic Acid
STRANDEDNESS: Single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             415/952-9881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 94080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; TÓPOLOGY:
US-08-087-783A-15
                                                                                                                               2339
                                                                                         qq
                                                                                                                                                                  g
                                                                                                                                                                                                         δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1739 caaggatcctgatgcaggagaggctgtaacagtaccatcaaaggaagcacctgtacaagt 1798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1799 accagingcaginagggcccgcgcaagaagingccaacggaagaaingaingcaactccaaga 1858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    aggagaaggagaaccaacggaagaagagccaagagaaggagagagccaacagaaggagaagt 1978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1979 gccagaagaattagaggcaactccagaggacgatttcgaattagaagaaccaacagg 2038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  agaagaagtagaagaaaccgtagagggcgaagaactgcagaaggagaagaagtggaaga 2098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2159 ggtaccagaagaagtagaagagtacccgcagaagtagaagaagtggaagaggtaccaga 2218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2219 agaagtggaagaggtaccagaagtagaagtggaagaggtaccagaagaagtggaagaggtacc 2278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ggtacctgcagaagtagaagtagtagaagaggtacctgcagaagtagaagtggaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 10596;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pred. No. 1.6e-21;
0; Mismatches 343; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 167.2; DB
Pred. No. 1.6e-21
                                                                                                                                            MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: patin (Genentech)
CURRENT APPLICATION DATA:
FILING DATE: 19920518
               SSEE: Genentech, Inc.
1: 460 Point San Bruno Blvd
South San Francisco
California
                                                                                                                                                                                                                                                                                                                                                                 REGISTRATION NUMBER: 33,055
REGISTRATION NUMBER: 33,055
REFRENCE/DOCKET NUMBER: 779
TELECOMMUNICATION INFORMATION:
TELERAX: 415/952-981
TELERAX: 910/311-7168
INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
LENGTH: 10596 bases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          5.0%;
                                                                                                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 5.0%
Best Local Similarity 52.1%
Matches 373; Conservative
                                                                                                                                                                                                                                                            FILING DATE: 19920518
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: NUCLEIC ACID
STRANDEDNESS: single
CORRESPONDENCE ADDRESS:
                                                                                                                             COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    linear
                                                                                                         94080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; TOPOLOGY:
US-07-885-971-15
                                                                                         COUNTRY:
                                                    CITY: S
STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δý
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
```

ö

```
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/225-2614
TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
LENGTH: 10596 bases
TYPE: nucleic acid
STRANDEDNESS: single
   REFERENCE/DOCKET NUMBER:
                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2869
                                                                                                                                                                                                                                                                                                                                                                 1919
                                                                                                                                                                                                                                                                                                                                                                                                                                                               2039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2399
                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                q
                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             qq
                                     2039 agaagaagtagaagaaaccgtagaggcgaagaaactgcagaaggagaagaagtggaaga 2098
                                                                                                                                                                                                                  2099 ggtacctgcagaagtagaagaagtggaagaggtacctgcagaagtagaagaagtggaaga 2158
                                                                                                                                                                                                                                  ggtaccagaagaagtagaaggtacccgcagaagtagaagtagaagagtaccaga 2218
                                                                                                                                                                                                                                                                                     agaagtggaagataccagaagaagtggaagaggtaccagaagaagtggaaggtacc 2278
                                                                                                                                                                                                                                                                                                                                      agaagtaccagcggtagtagaagaagaggtgccagaagaagtagaagaagaagaagaaga 2398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 15, Application US/08194088B
Patent No. 5580963
GENERAL INFORMATION:
TITLE OF INVENTION: SINGLE-CHAIN HEPATOCYTE GROWTH FACTOR VARIANTS
NUMBER OF SEQUENCES: 21
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: SOUTH San Francisco
STATE: California
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ggaagaaccagtagaggaagaagatgtattacaattagtaataccatcggaagaag 2454
                                                                     1919 аддадавдадавассаасддаадаададссаададааддададссаасадааддададд
                         gccagaagaagttagaggcaactccagaggacgatttcgaattagaagaaccaacagg
                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: patin (Generach)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/194,088B
FILING DATE: 09-FEB.1994
CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/884811
FILING DATE: 18-MAY-1992
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME: Gallegos, R. Thomas
REGISTRATION NUMBER: 32,69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            94080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-194-088B-15
                                                                                                                      1979
                                                                                                                                                                                                                                                                   2159
                                                                                                                                                                                                                                                                                                                                                                                                               2339
                                                                                                                                                                                                                                                                                                                                                                                                                                                               2399
                       ò
                                              8
                                                                                          g
                                                                                                                     ò
                                                                                                                                          8
                                                                                                                                                              ò
                                                                                                                                                                                       g
                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                               õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                     ò
                                                                                                                                                                                                                                                                                                                                                               ò
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2098
                                                                                                                                                                                         2209 CAAAGGGACCCACGGTGGAACAGGAGCAGGAGCGGGAGGAGGAGGAGGAGG 2268
                                                                                                                                                                                                                                               1799 accagtggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaactccaaga 1858
                                                                                                                                                                                                                                                                                                                                    ggtacctgcagaagtagaagaagtggaagaggtacctgcagaagtagaagaagtggaaga 2158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ggtaccagaagaagtagaagaggtacccgcagaagtagaagaagtggaagaagaggtaccaga 2218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              agaagtggaagagtaccagaagaagtggaagaggtaccagaagaagtggaagaggtacc 2278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           agaagaagtggaagaagtggaagaagtagaagaagtagaggtaccagcggtagtagaagt 2338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    agaagtaccagcggtagtagaagaagaggtgccagaagaagtagaagaagaagaagaagaaga 2398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1739 caaggateetgatgeaggagaggetgtaaeagtaeeateaaaggaageaeetgtaeaagt 1798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-08-194-087-15
Sequence 15, Application US/08194087
Sequence 15, Application US/08194087
Patent No. 5879910
GENERAL INFORMATION:
APPLICANT: Godowski, Paul J. Lokker, Nathalie A. Mark, Melanie R.
                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2269 GGCAGGAGCAGGAGGAGCAGCAGCAGGAGGGCAGGAGGGGCAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gccagaagaagtaaggcaactccagaggacgatttcgaattagaagaaccaacagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      agaagaagtagaagaaaccgtagaggcgaagaaactgcagaaggagaagaagtggaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 10596;
                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ggaagaaccagtagaagaagaagatgtattacaattagtaataccatcggaagaag
                                                                                                                         Indels
                                                                               Score 167.2; DB 1;
Pred. No. 1.6e-21;
0; Mismatches 343;
                                                                             5.0%;
                                                                                                   Best Local Similarity 52.1
Matches 373; Conservative
; TOPOLOGY: linear
US-08-194-088B-15
```

```
2339 agaagtaccagcggtagtagaagaagaggtgccagaagaagtagaagaagaagaagaaga
                                                                                                                                                                                     2869 GCCAGGAGCAGGAGGGCAGGAGGAGCAGGAGGAGGGGCAGGAGCAGGAG 2924
                        agaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtacc
                                                                                                                                                                                                                                      2399 ggaagaaccagtagaggaagaagatgtattacaattagtaataccatcggaagaag 2454
                                                                                           agaagaagtggaagaagtggaagtagaagtagaagtaccagcggtagtagaagt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07,
FILING DATE: 18-MAY-92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 5.03
Best Local Similarity 52.13
Matches 373; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 10596 bases
TYPE: NUCLEIC ACID
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                        CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ZIP: 94080
                                                                                                                                                                                                                                                                                                                              RESULT 20
PCT-US93-04648-15
                                                                                                                           g
                                                                                                                                                                 Qγ
                                                                                                                                                                                                    g
                                                                                                                                                                                                                                      ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Op
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
     HEPATOCYTE GROWTH FACTOR PROTEASE DOMAIN VARIANTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1739 caaggatcctgatgcaggagggctgtaacagtaccatcaaaggaagcacctgtacaagt 1798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1799 accagtggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaactccaaga 1858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         aggagaagaagccaacggaagaagaagccaagagaaggagagccaacagaaggagagagt 1978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2039 agaaggaagtagaagaaaccgtagagggcgaagaaactgcagaaggagaagaagtggaagá 2098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ggtacctgcagaagtagaagtggaagtggaaggtacctgcagaagtagaagaagtggaaga 2158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ggtaccagaagaagtagaagaggtacccgcagaagtagaagaagtggaagaggtaccaga 2218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1979 gccagaagaagaattagaggcaactccagaggacgatttcgaattagaagaaccaacagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 10596;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 167.2; DB 2;
Pred. No. 1.6e-21;
0; Mismatches 343;
                                                                                                                                                                            MEDIUM TYPE: 5.25 inch, 360 kb floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: patin (genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/194,087
FILING DATE: 18-MAY-1992
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
TITLE OF INVENTION: HEPATOCYTE OF SEQUENCES: 21
CORRESPONDENCE ADDRESS:
ADDRESSE: Genentech, Inc.
STREET: 460 Point San Bruno B)
CITY: South San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE/DOCKET NUMBER: 779
TELECOMUNICATION INCORMATION:
TELEPHONE: 415/255-3216
TELEFAX: 415/952-9881
TELEX: 910/371-7168
INPORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
LENGTH: 10596 bases
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                     NAME: Dreger, Ginger R. REGISTRATION NUMBER: 33,055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 5.0%;
Best Local Similarity 52.1%;
Matches 373; Conservative
                                                                                                                                                                                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRANDEDNESS: single
                                                                                                                                                               COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                             USA
                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
                                                                                                                                              94080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; TOPOLOGY:
US-08-194-087-15
                                                                                                          STATE: CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

```
Sequence 15, Application PC/TUS9304648
GENERAL INFORMATION:
APPLICANT: Genentech, Inc., Godowski, Paul J., Lokker, Natalie A., Mark, Melani
TITLE OF INVENTION: HEPATOCYTE GROWTH FACTOR VARIANTS
NUMBER OF SEQUENCES: 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1799 accagtggcagtagggcccgcgcaaagaagtgccaacggaagaattgatgcaactccaaga 1858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1739 caaggatcctgatgcaggagagaggctgtaacagtaccatcaaaggaagcacctgtacaagt 1798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 10596;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 167.2; DB 5;
Pred. No. 1.6e-21;
0; Mismatches 343;
                                                                                                                                                                                                                                                                                       COMPUTER READBLE FORM:
MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
COMPUTER: 1BM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: patin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US93/04648
FILING DATE: 19930517
CLASSIFICATION:
                                                                                                                                               ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/885971
FILING DATE: 18-MAY-92
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      07/884811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME: Dreger, Ginger R. REGISTRATION NUMBER: 33,055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE/DOCKET NUMBER: 75
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/225-3216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             52.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δλ
```

```
1651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1711
                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                 agaagaagtagaagaaaccgtagagggcgaagaactgcagaaggagaagaagtggaaga 2098
                                                                                                                                                                                                                ggtacctgcagaagtagaagtagaagtggaaggtacctgcagaagtagaagaagtggaaga 2158
                                                                                                                                                                                                                                                                                                         agaagtggaagagtaccagaagaagtggaagagtaccagaagaagtggaagaggtacc 2278
                                                                                                                                                                                                                                                                                                                             agaaagaagtagaagaagtagaagaagtagaagtagaagtagaagtaccagcggtagtagtagaagt 2338
                                                                                                                                                                                                                                                                                                                                                                agaagtaccagcggtagtagaagaagaggtgccagaagaagtagaagaagaagaaga 2398
                                                                                                                                                                                                                                                                                                                                                                                                               ggaagaaccagtagaagaagaagatgtattacaattagtaataccatcggaagaag 2454
                                                                                                                                                                                                                                                                                                                                                                                                                                                       gccagaagaagtagaagtaactccagaggacgatttcgaattagaagaaccaacagg
                                                                                                                                       APPLICANT: Steinert, Peter M.
APPLICANT: Steinert, Peter M.
APPLICANT: Lee, Seung-Chul
APPLICANT: Kim, In-Gyu
APPLICANT: Chung, Soo-Il
APPLICANT: Park, Sang-Chul
TITLE OF INVENTION: Trichohyalin and Transglutaminase-3 of TITLE OF INVENTION: Mehods of Using Same
NUMBER OF SEQUENCES: 117
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE: Knobbe, Martens, Olson & Bear
STREET: 620 Newport Center Drive, Sixteenth Floor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOFTWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATA: PAPLICATION NUMBER: US/08/056,200 FILING DATE: 30-APR-1993 CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; Sequence 93, Application US/08056200
; Patent No. 5616500
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Newport Beach
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY: U ZIP: 92660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STATE: CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-08-056-200-93
                                                                                                                                                                                                                                                                                                                             2689
                                                                                                                                                                                                                                                                                                                                                                         2749
                                                                                                                                                                                                                                                                                                                                                                                                                                           2399
                               1859
                                                                          1919
                                                                                               2389
                                                                                                                       1979
                                                                                                                                            2449
                                                                                                                                                                   2039
                                                                                                                                                                                                                                                                                                      2219
                                                                                                                                                                                                                                                                                                                                                  2279
                                                                                                                                                                                                                                                                                                                                                                                               2339
                                                                                                                                                                                                               2099
          g
                                                                                            a
                                                                                                                                                                                      g
                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                              ò
                                                                    ò
                                                                                                                      ò
                                                                                                                                        9
                                                                                                                                                               ò
                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
```

```
1291 aagaaactccagaaggagaagaagaagttagaggcaactccagaggatgatttcgcattag 1350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3430 CGCGAGCAGGAGGAGGAGGCGCGCGAGCAGCTGAGGCGCGAGCAGGAGGAGGAGGAGG 3489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1591 ccgaaccggtagaagtagtgactcctgctcagcctgtcaaaccaatggtcgctccaacgg 1650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cagatgaaactttattcgttgatatcttagataacgatttaacgtatgcagacattacat 1710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cctttgagccattatttaaacaaatcctcaaggatcctgatgcaggagggctgtaacag 1770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3250 GAAGAGCAGCAGCAACAAAGGCTGAGGCGCGAGCAACTAAGGCGCAAGCAGGAGGAG 3309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1471 agttagaggcaactccagaggatgacttccaattagaagaaccatcaggagaaggagaag 1530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1531 gggaaggagaaggagaaggggaaggagaaggagaagcattagtagcagtgccagtagtgg 1590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3550 GAGCAGCAGCTGAGGCGGGAGCAGCAGCTGAGGCGCGAGCAGCAGCTGAGGCGCGGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3667 CTGAGGCGCGAGCAGCAGCTGAGGCGCGAGCAGCAGCTGAGGCGCGGAGCAGGAGGAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1771 taccatcaaaggaagcacctgtacaagtaccagtggcagtagggcccgcgcaagaagtgc 1830
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          caacggaagaattgatgcaactccaagaggacgatttcga---attagaaggaactgcag 1887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 9551;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4.4%; Score 147.2; DB 1;
47.2%; Pred. No. 5.9e-18;
tive 0; Mismatches 613;
                                                                 NIH054.001A
             NAME: FEGLICK, MICHAEL F.
REGISTRATION NUMBER: 36,799
REFERENCE/DOCKET NUMBER: NIHOE
TELECOMMUNICATION INFORMATION:
TELEPHONE: (714) 760-9502
INFORMATION FOR SEQ ID NO: 93:
SEQUENCE CHARACTERISTICS:
LENGTH: 9551 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPPLOGY: linear
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 47.2
Matches 566; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CDS
2512..8070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1645..2511
                                                                                                                                                                                                                                                                                     MOLECULE TYPE: CDNA HYPOTHETICAL: NO ANTI-SENSE: NO FEATURE:
                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                     LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LOCATION:
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; NAME/KEY:
; LOCATION:
US-08-056-200-93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURE:
```

ë,

```
3847 AAGCAGCAGCTGAAGCGCGACCAGGAGGAGGAGGCGCGAACGTTGGCTGAAGCTCGAG 3906
                                                                                                                                                                                                                                                                               4147 GAGAGGCGCGATCAGCTGCTGAAGCGCGAGGAGAGAGAGGCGCCAGCAGCAGCGGCTGAAGCGC 4206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4207 GAGCAGGAAGAGGCTCGAGCAGCGACTGAAGCGCGAGGAGGTGGAGACACTCGAGCAG 4266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4267 GAGGAGAGGCGCGCACGAGCGCTGAAGCGCGAGGAGCCGGAGGAAGAGAGGCGCCACGAG 4326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2353 tagtagaagaagaggtgccagaagaagtagaagaagaagaagaagaagaagaggaagcagtag 2412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTGCTGAAGAGCGAGGAGCAGGAGGAGGGGCCCACGAGCAACTGAGGCGCGGGAGCAGCAG 4386
                                                                                                                                                                                       --agaaggagaagaagtggaagaggtacctgcagaag
                                                                                                                                                                                                                                                                                                                                                                            2173 tagaagaggtacccgcagaagtagaagaagtggaagaggtaccagaagaagtggaagag
                                                                     aagctccagaggaaggagaattagtattagaaggagaaggagaaccaacggaagaaga
                                                                                                                                                          1948 caagagaagaagagccaacagaaggagaagtgccagaagaagaagtagtagaggcaactccag
                                                                                                                                                                                                                                                     2008 aggacgatttcgaattagaagaaccaacaggagagaagaagtagaagaaaccgtagagggcg
                                                                                                                                                                                                                                                                                                                                                                                                                                        2113 tagaagaagtggaagaggtacctgcagaagtagaagaagtggaagaggtaccagaagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        taccagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   aagtggaagaagtagaagtagaggtaccagcggtagtagaagtagaagtaccagcgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Transglutaminase-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AUDRESSEE: Knobbe, Martens, Olson & Bear
STREET: 620 Newport Center Drive, Sixteenth Floor
STATE: CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Chung, Sco_11
APPLICANT: Chung, Sao_11
TILE OF INVENTION: Trichohyalın and Tran
TITLE OF INVENTION: Mehods of Using Same
UNMBER OF SEQUENCES: 117
ADDRESSEE: Knobbe, Martens, Olson & Bea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/056,200
FILING DATE: 30-APR-1993
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/800,644
FILING DATE: 14-FEB-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 93, Application US/08800644 Patent No. 5958752 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Steinert, Peter
Lee, Seung-Chul
Kim, In-Gyu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                             2068 aagaaactgc-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          92660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-08-800-644-93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4327
                                                                                                                                                                                                   οp
                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                  ò
                                                                                                                                                                                                                                                     ò
```

```
1291 aagaaactccagaaggagaagaagaagttagaggcaactccagaggatgatttcgcattag 1350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3370 GAGAGGCGCGAGCAGCAGCTGAGGCGCGAGCAGGAGGAGGGGGCGCGAGCAGCAGCTGAGG 3429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   agttagaggcaactccagaggatgacttccaattagaagaaccatcaggagaaggagaag 1530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1591 ccgaaccggtagaagtagtgactcctgctcagcctgtcaaaccaatggtcgctccaacgg 1650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cagatgaaactttattcgttgatatcttagataacgatttaacgtatgcagacattacat 1710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3610 CAGCTGAGGCGCGAGCAGCAGCT---GAGGCGCGAGCAGCAGCTGAGGCGCGGAGCAGCAG 3666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cetttgagccattatttaaacaaatcetcaaggateetgatgcaggagagaggetgtaacag 1770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CTGAGGCGCGAGCAGCAGCTGAGGCGCGGAGCAGCTGAGGCGCGCGAGCAGGAGGAGGAG 3726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           taccatcaaaggaagcacctgtacaagtaccagtggcagtagggcccgcgcaagaagtgc 1830
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3190 GAGGAAGAAGAGCAGCTACGGAAGCTGGAGCGGCAAGAGCTGAGGAGGGGGGCGCCCAGGAG 3249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1231 gaaacagaagaaacgtagagggagaagaagaagaagaagaagctgcagaaggagaagtatcag 1290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3250 GAAGAGCAGCAGCAGCAAAGGCTGAGCGCGCGAGCAACTAAGGCGCAAGCAGGAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1351 atggaactacattagaagaaaccgaagaaactgcagaaggagaagaaaccgtagaggag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aagaaaccgtagaggagaaaaccgtagaggagaagaagctgcagaaggagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3550 gagcagcagcreaegeegeegeagcagcreageegeegeegeagcagcreageegeegageag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 9551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 147.2; DB 2;
Pred. No. 5.9e-18;
0; Mismatches 613;
       REGISTRATION NUMBER: 36,799
REFERENCE/DOCKET NUMBER: NIHOS:
TELECOMUNICATION INCORMATION:
TELEPHONE: (714) 760-9404
TELERAX: (714) 760-9502
INFORMATION FOR SEQ ID NO: 93:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 4.4%;
Best Local Similarity 47.2%;
Matches 566; Conservative
Fedrick, Michael F.
                                                                                                                                            LENGTH: 9551 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                           2512..8070
                                                                                                                                                                                                                                                                                                                                                                       1645..2511
                                                                                                                                                                                                    TOPOLOGY: linear MOLECULE TYPE: CDNA
                                                                                                                                                                                                                                                                                                                                                        intron
                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                          S
S
                                                                                                                                                                                                                                        HYPOTHETICAL:
ANTI-SENSE: N
                                                                                                                                                                                                                                                                                              NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                    NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                      LOCATION:
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                           . LOCATION:
US-08-800-644-93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              <del>Q</del>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ά
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                á
```

3,

```
APPLICANT: COGENT NEWSCIENCE, INC.
APPLICANT: COGENT NEWSCIENCE, INC.
APPLICANT: Lo, Donald C.
APPLICANT: Barney, Shawn
APPLICANT: Thomas, Mary Beth
APPLICANT: Puranam, Kasturi
APPLICANT: Puranam, Kasturi
APPLICANT: Puranam, Kasturi
APPLICANT: Ratz, Lawrence C.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR DIAGNOSING
TITLE OF INVENTION: CELL DEATH
FILE REFERENCE: 10001-005-999
CURRENT APPLICANT: 1999-12-14
CURRENT FILING DATE: 1999-12-14
NUMBER OF SEQ ID NOS: 466
SEQUID NOS: 466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1940 agaagagccaagagaaggagagccaacagaaggagaagtgccagaagaagaattagaggc 1999
                                                                                                                                                                                                                                                                                                                                                           2240 agaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaagtgga 2299
                                                                                                                                                                                                                                             2120 agtggaagaggtacctgcagaagtagaagtggaagaggtaccagaagaagtagaaga
                                                                                                                                                                                                                                                                                         2180 ggtacccgcagaagtagaagtagaagtggaagaggtaccagaagaagtggaagaggtaccaga
                                                                                                                                                                                                                                                                                                                                                                                                                               2300 agaagtagaagtagaggtaccagcggtagtagaagtagaagtaccagcggtagtaga
                                                 165 agatgccacagaaaagggaggagaaaaagaaagaagcagtggcagcagaagtaaaaatga
                                                                                     aactccagaggacgatttcgaattagaagaaccaacaggagaagaagtagaagaaaccgt
                                                                                                                                                     285 agaagacaaagatgaaaaaggggaagaagatggaaaagaggataaaaatggaaatggaaatgaaga
                                                                                                                                                                                                                                                                                                                                                                                             aaaagtcaaagaagatgaaaaagagagagagaagatggaaagaagatgaaggtggaaatga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 699;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4.3%; Score 145; DB 4;
llarity 53.9%; Pred. No. 8.1e-18;
Conservative 0; Mismatches 255;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; Sequence 191, Application.US/09461697; Patent No. 6277974; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    agatgtattacaa 2432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    tgagatcaaagaa 657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: DNA
CORGANISM: Homo sapiens
US-09-461-697-191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
Matches 298; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-461-697-191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQ ID NO 191
                                                                                   2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ŏ
                                          q
                                                                                                            g
                                                                                                                                            ò
                                                                                                                                                                                  g
                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                  QQ
                                                                                                                                                                                                                                                                                                                                                οý
                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                 ò
                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DISEASES INVOLVING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                    4087 GAGGAGGAGAAGAGGCTCGAGCAGAGAGAGAGAGAGAGCGGGCTGAAGCGCGAGCAGGAG 4146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4327 CTGCTGAAGAGCGAGGAGGAGGAGGAGGCCCACGAGCAACTGAGGCGCGCGAGCAG 4386
                                                                                                                                                                                                                                                                                                                                                                                                         4147 GAGAGGCGCGATCAGCTGCTGAAGCGCGGAGGAGGAGGGGCGCCAGCAGCGGCTGAAGCGC 4206
                                aagaaactgc-----agaaggagaagaagaagtggaaggtacctgcagaag 2112
                                                                                                                                                                                                                                                                                                                                                                         tagaagaggtacccgcagaagtagaagaagtggaagaggtaccagaagaagtggaagagg 2232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAGCAGGAAGAGAGCCTCGAGCAGCGACTGAAGCGCGAGGAGGTGGAGAACTCGAGCAG 4266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aactgcagaagctccagaggaaggaattagtattagaaggagagaaggagaaccaacgga 1939
GAGAGGCGCGATTGGCTGAAGCGCGAGGAGAGACGAGAGGCACGAGCAGGAGAGGCGC 3846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAGAGGCGCGAGCAGCGCTGAAGCGCCCAGGAGGAAGAAGAGGAGGCTCCAGCAGCAGCTTG
                                                                                                                                                                                                                                                           aggacgatttcgaattagaagaaccaacaggagaagaagtagaagaaaccgtagagggcg
                                                                                                                                                                                                                                                                                                         tagaagaagtggaagaggtacctgcagaagtagaagaagtggaagaggtaccagaagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                               taccagaagaagtggaagataccagaagaagtggaagaggtaccagaagaagtggaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2353 tagtagaagaagaggtgccagaagaagtagaagaagaagaagaagaagaagaagaaccagtag
                                                                                                     caagagaaaggagagccaacagaaggagaagtgccagaagaagaattagaggcaactccag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 193, Application US/09461697

Batent No. 6277974

GENERAL INFORMATION:
APPLICANT: COGENT WERROSCIENCE, Inc.
APPLICANT: Barney, Shawn
APPLICANT: Harney, Stuart D.
APPLICANT: Portbury, Stuart D.
APPLICANT: Pursanam, Kasturi
APPLICANT: COMPOSITIONS AND METHODS FOR DIAGNOSING
ITILE OF INVENTION: COMPOSITIONS AND TREATHS
FILE REFERENCE: 10001-005-999
CURRENT APPLICATION NUMBER: US/09/461,697

CURRENT APPLICATION NUMBER: US/09/461,697

CURRENT FILING DATE: 1999-12-14

NUMBER OF SEX ID NOS: 466

SOFTWARE: FASTSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 145; DB 4; Length 69
Pred. No. 8.1e-18;
0; Mismatches 255; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity 53.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches 298; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; TYPE: DNA
; ORGANISM: Homo sapiens
US-09-461-697-193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 23
US-09-461-697-193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO 193
LENGTH: 696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local
                                                                                                  1948
                                                                                                                                                                   2008
                                                                                                                                                                                                    3967
                                                                                                                                                                                                                                     2068
                                                                                                                                                                                                                                                                     4027
                                                                                                                                                                                                                                                                                                       2113
                                                                                                                                                                                                                                                                                                                                                                         2173
                                                                                                                                                                                                                                                                                                                                                                                                                                             2233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4207
3787
                                                                                                                                   3907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                              g
                                                                                                                            9
                                                                                                                                                                  ò
                                                                                                                                                                                            8
                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                         염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                ð
                                                                                              ò
                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
```

ö

```
4.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2420 agatgtattacaa 2432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             666 tgagatcaaagaa 678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM: Homo sapiens
US-09-461-697-187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 298; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 26
US-09-461-697-187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQ ID NO 187
                                                                                                                              qq
                                                                                                                                                                ŏ
                                                                                                                                                                                              g
                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                            ŏ
                                                                                                                                                                                                                                                                                                                                                                        O
                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ΟŊ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: COGENT NEUROSCIENCE, Inc.
APPLICANT: COGENT NEUROSCIENCE, Inc.
APPLICANT: Lo. Donald C.
APPLICANT: Barney, Shawn
APPLICANT: Thomas, Mary Beth
APPLICANT: Portbury, Stuart D.
APPLICANT: Puranam, Kasturi
APPLICANT: Puranam, Kasturi
APPLICANT: NEWENTON: COMPOSITIONS AND METHODS FOR DIAGNOSING
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR DIAGNOSING
TITLE OF INVENTION: CAPPOSITIONS AND TREATING CONDITIONS, DISORDERS, OR DISEASES INVOLVING
FILLE REFERENCE: 10001-005-999
CURRENT APPLICATION NUMBER: US/09/461,697
CURRENT APPLICATION NUMBER: US/09/461,697
SOFTWARE: FASLESQ for Windows Version 4.0
SSOFTWARE: FASLESQ for Windows Version 4.0
SEQ ID NO 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                           2359
agaagagccaagaaggagagagccaacagaaggagaagtgccagaagaagaattagaggc 1999
                                                                                                                     2119
                                                                                                                                                                             2120 agiggaagagtaccigcagaagiagaagaagiggaagaggiaccagaagaagiagaaga 2179
                                                                                                                                                                                                                                      1880 aactgcagaagctccagaggaaggagaattagtattagaaggagaaggagaaccaacgga 1939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1940 agaagagccaagagaaggagaccaacagaaggagaagtgccagaagaagaattagaggc 1999
                                                                                                                                                                                                          407
                                                                                                                                                                                                                                                                      467
                                                                                                                                                                                                                                                                                                                              527
                                                                                                                                                                                                                                                                                                                                                                                                                                                647
                             227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    aattacagaggcaccagcttctgaaaaagaaattgtggaagtaaaagaagaaaatattga 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                   2060 agagggcgaagaaactgcagaaggagaagaagtggaagaggtacctgcagaagtagaaga
                                                                                                                                               288 agaagacaaagatgaaaaaggggaagaagatggaaaaagaggtaaaaagaggataaaa
                                                                                                                                                                                                                                                                                                   agaagtggaagataccagaagaagtggaagaggtaccagaagaagtggaagagtgga
                                                                                                                                                                                                                                                                                                                              aaaagtcaaagaagatgaaaaagagagagagagatggaaagatgaaggtggaaatga
                                                                                                                                                                                                                                                                                                                                                                                                                                      agaagtagaagaagtagaggtaccagcggtagtagaagtagaagtaccagcggtagtaga
                                                         aactccagaggacgatttcgaattagaagaaccaacaggagaagaagtagaagaaaccgt
                                                                                                                                                                                                                                                                      Length 717;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 145; DB 4; Length 71
Pred. No. 8.2e-18;
0; Mismatches 255; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 189, Application US/09461697 Patent No. 6277974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         298; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             agatgtattacaa 2432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tgagatcaaagaa 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; TYPE: DNA
; ORGANISM: Homo sapiens
US-09-461-697-189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-461-697-189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local
                                                                                                                                                                                                                                                                    408
                            168
                                                                                                                                                                                                                                                                                                                              468
                                                                                                                                                                                                                                                                                                                                                          2300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ŏ
                                                                                                                                            g
                                                                                                                                                                                                   Q
                                                                                                                                                                                                                               õ
                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                        ŏ
                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                            셤
                                                         ò
                                                                                    a
                                                                                                                ò
                                                                                                                                                                             ò
```

```
AND METHODS FOR DIAGNOSING CONDITIONS, DISORDERS, OR DISEASES INVOLVING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1940 agaagagccaagagaaggagggccaacagaaggagaagtgccagaagaagaattagaggc 1999
||| | || || || || || || ||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2240 agaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaagtgga
                                                                                                                                                                                                                                                                                                                                                                              2180 ggtacccgcagaagtagaagaagtggaagaggtaccagaagaagtggaagaggtaccaga
                                                                                                                                                                agagggcgaagaaactgcagaaggagaagaagtggaagaggtacctgcagaagtagaaga
                                                                                                                                                                                                                   306 agaagacaaagatgaaaaaggggaagaagatggaaaaagaggataaaaatggaaatgagaa
                                                                                                                                                                                                                                                                     2120 agtggaagaggtacctgcagaagtagaagaagtggaagaggtaccagaagaagtagaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2360 agaagaggtgccagaagaagtagaagaagaagaagaagaagaagaaccagtagaggaaga
                                                                                                                                                                                                                                                                                                                              366 aggagaagatgcaaaagagaaaagaagatggaaaaaaaaggtgaagacggaaaatgg
                                                                                                                                                                                                                                                                                                                                                                                                                                   2300 agaagtagaagaagtagaggtaccagcggtagtagaagtagaagtaccagcggtagtagaga
                                                           aactccagaggacgatttcgaattagaagaaccaacaggagaagaagtagaagaaaccgt
                                                                                                           246 agaagaagatcagaaagaagatgaagaagatcaaaacgaagagagaaaggggaagctggaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 774;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 145; DB 4; I
Pred. No. 8.3e-18;
0; Mismatches 255;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: COGENTY NETROSCIENCE, Inc.
APPLICANT: Lo, Donald C.
APPLICANT: Barney, Shawn
APPLICANT: Barney, Shawn
APPLICANT: Portbury, Stuart D.
APPLICANT: Portbury, Stuart D.
APPLICANT: Puranam, Kasturi
APPLICANT: Fatz. Lawrence C.
TITLE OF INVENTION: COMPOSITIONS AND METHODS
TITLE OF INVENTION: COMPOSITIONS AND METHODS
TITLE OF INVENTION: CELL DEATH
FILE REPERENCE: 10001-005-999
CURRENT APPLICATION NUMBER: US/09/461,697
CURRENT PILICA DATE: 1999-12-14
NUMBER OF SEQ ID NOS: 466
SOFTWARE: FASTSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 187, Application US/09461697
Patent No. 6277974
GENERAL INFORMATION:
```

467

587

2299

us-09-667-130-1\_1.rni

```
APPLICANT: LO. Donald C.
APPLICANT: Lo. Donald C.
APPLICANT: Lo. Donald C.
APPLICANT: Barney. Shawn
APPLICANT: Barney. Shawn
APPLICANT: Portbury, Stuart D.
APPLICANT: Portbury, Stuart D.
APPLICANT: Portbury, Stuart D.
APPLICANT: Puranam, Kasturi
APPLICANT: Lawrence C.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR DIAGNOSING
TITLE OF INVENTION: CELL DEATH
FILE REFERENCE: 10001-005-999
CURRENT APPLICATION NUMBER: US/09/461,697
CURRENT FILING DATE: 1999-12-14
NUMBER OF SEQ ID NOS: 466
SOFTWARE: FastSEQ for Windows Version 4.0
                      aactccagaggacgatttcgaattagaagaaccaacaggagaagaagtagaagaaaccgt 2059
                                                                                                                                                                                                                                                                                                                                                                                                        2300 agaagtagaagaagtagaggtaccagcggtagtagaagtagaagtaccagcggtagtaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1940 agaagagccaagagaaggagggccaacagaaggagaagtgccagaagaagaattagaggc 1999
||| || || || || || || || ||
                                                                                                                                                                                                                                                                                                                                                                  367 agatgccacagaaaagggaggagaaaagaaaagaagcagtggcagcagcagaagtaaaaaatga 426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 307 aattacagaggcaccagcttctgaaaaagaaattgtggaagtaaaagaagaagaatttga 366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                2180 ggtacccgcagaagtagaagagtggaagaggtaccagaagaagtggaagaggtaccaga
                                                                                                                                                                                                                                                                            348 agaagaagatcagaaagaagatgaagaagatcaaaacgaagagaaaggggaagctggaaa
                                                                                                agagggcgaagaaactgcagaaggaagaagtggaagaggtacctgcagaagtagaaga
                                                                                                                                  408 agaagacaaagatgaaaaaggggaagaagatggaaaaagaggataaaaatggaaatgagaa
                                                                                                                                                                        468 aggagaagatgcaaaagagaaagaagatggaaaaaaaggtgaagacggaaaaggaaatgg
                                                                                                                                                                                                                                                                                                                              240 agaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaagtgga
                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 1669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 145; DB 4; Length 16
Pred. No. 9.9e-18;
0; Mismatches 255; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 184, Application US/09461697 Patent No. 6277974
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   / Match 4.3%;
Local Similarity 53.9%;
hes 298; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2420 agatgtattacaa 2432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      768 tgagatcaaagaa 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; TYPE: DNA
; ORGANISM: Homo sapiens
US-09-461-697-184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-461-697-184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ ID NO 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Loca
Matches
                    2000
                                                                                                                                                                          2120
                                                  Q
                                                                                                                          g
                                                                                                                                                                  δ
                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                              õ
                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ģ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                    ò
                                                                                            ò
                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: COGENT NEUROSCIENCE, Inc.
APPLICANT: Co. Donald C.
APPLICANT: Lo. Donald C.
APPLICANT: Homes, Mary Beth
APPLICANT: Portbury, Stuart D.
APPLICANT: Prortbury, Stuart D.
APPLICANT: Prortbury, Stuart D.
APPLICANT: Portbury, Stuart D.
APPLICANT: Portbury, Stuart D.
APPLICANT: Ratz, Lawrence C.
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR DIAGNOSING
TITLE OF INVENTION: CELL DEATH
FILE REFERRACE: 10001-005-999
CURRENT APPLICATION NUMBER: US/09/461,697
CURRENT FILING DATE: 1999-12-14
NUMBER OF SEQ ID NOS: 466
SOFTWARE: PEASLEQ for Windows Version 4.0
SEQ ID NO 185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    agaagaggtgccagaagaagtagaagaagaagaagaagaagaagaaccagtagaggaaga 2419
                                                                                                                                                                                          agtggaagaggtacctgcagaagtagaagtggaagtggaagagtaccagaagaagtagaaga 2179
                                                                                                                                                                                                                                                                    ggtacccgcagaagtagaagaagtggaagaggtaccagaagaagtggaagaggtaccaga 2239
                                                                                                                                                                                                                                                                                                                                              agaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagagtgga 2299
                                                                                                                                                                                                                                                                                                                                                                                                                          agaagtagaagaagtagaggtaccagcggtagtagaagtagaagtaccagcggtagtaga 2359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1880 aactgcagaagctccagaggaaggagtaattagtattagaaggagaaggagaaccaacgga 1939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1940 agaagagccaagaaggagagccaacagaaggagaagtgccagaagaagaattagaggc 1999
                                                                                                                                                                                                                          423 aggagaagatgcaaaagagaaagaagatggaaaaaaggtgaagacggaaaaggaaatgg 482
                                                                                                                                                                                                                                                                                                                                                                  agatgccacagaaaagggaggagaaaaagaaagaagcagtggcagcagaagtaaaaatga 302
                                                                                                                                                    363 agaagacaaagatgaaaaaggggaagaagaatggaaaaggggataaaaatggaaatgagaa 422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 228 aattacagaggcaccagcttctgaaaaagaaattgtggaagtaaaagaagaaaatattga 287
                                    aactccagaggacgatttcgaattagaagaaccaacaggagaagaagtagaagaaaccgt
                                                                      303 agaagaagatcagaaagaagatgaagaagatcaaaacgaagagaagggaagctggaaa
                                                                                                                                                                                                                                                                                                  agagggcgaagaaactgcagaaggagaagaagtggaagaggtacctgcagaagtagaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 145; DB 4; Length 81
Pred. No. 8.4e-18;
); Mismatches 255; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 185, Application US/09461697
Patent No. 6277974
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 53.9%;
Matches 298; Conservative C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                agatgtattacaa 2432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    723 tgagatcaaagaa 735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA
CORGANISM: Homo sapiens
US-09-461-697-185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -09-461-697-185
                                                                                                            2060
                                                                                                                                                                                      2120
                                                                                                                                                                                                                                                                  2180
                                                                                                                                                                                                                                                                                                                                              2240
                                                                                                                                                                                                                                                                                                                                                                                                                        2300
243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                  à
                                                                      g
                                                                                                        ò
                                                                                                                                            g
                                                                                                                                                                                      ó
                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                윤
                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
```

ö

```
g
                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                2419
2120 agtggaagaggtacctgcagaagtagaagtggaagtggaagaggtaccagaagaagtagaaga 2179
                                                                                                                                                                                                                        2180 ggtacccgcagaagtagaagtggaagtggaagaggtaccagaagaagtggaagaggtaccaga 2239
                                                                                                                                                                                                                                                                                                  agaagtggaagaggtaccagaaggaagtggaagaggtaccagaagaagtggaagaagtgga 2299
                                                                                                                                                                                                                                                                                                                                     727 aaaagtcaaagaagatgaaaaagagagagagagagatgaaaagatgaaggtggaaatga 786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   427 agaagaagatcagaaagaagatgaagaagatcaaaacgaagagaaaaggggaagctggaaa
                                                                        2060 agagggcgaagaaactgcagaaggagaagaagtggaagaggtacctgcagaagtagaaga
                                                                                                           487 agaagacaaagatgaaaaaggggaagaagatggaaaaagaggataaaaatggaaatgaga
                                                                                                                                                                                     547 aggagaagatgcaaaagagaaagaagatggaaaaaaaggtgaagacggaaaaggaaatgg
                                                                                                                                                                                                                                                                                                                                                                            agaagtagaagtagaggtaccagcggtagtagaagtagaagtaccagcggtagtaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                    agaagaggtgccagaagaagtagaagaagaagaagaagaagaagaagaaccagtagaggaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 14, Application US/08232463
Patent No. 5570367
GENERAL INFORMATION:
APPLICANT: SCHEIFLINGER, F.
APPLICANT: FALKNER, F. G.
TITLE OF INVENTION: RECOMBINANT FOWLFOX VIRUS
NUMBER OF SEQUENCES: 52
CORRESPONDENCE ADDRESS:
ADDRESSEE: Foley & Lardner
STREET: 1800 Diagonal Road, Suite 500
CITY: Alexandria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SYSTEM: PC-DOS/MS-DOS
PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER: 30472/114 IMMU TELECOMMUNICATION INFORMATION: TELEPHONE: (703)836-9300 TELEPHONE: (703)683-4109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EP 91 114 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/07/935,313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/232,463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC COMPATIBLE OPERATING SYSTEM: PC-DOS/MS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            29,768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           14:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 26-AUG-1991 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY: USA
ZIP: 22313-0299
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME: BENT, Stephen A. REGISTRATION NUMBER: 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2420 agatgtattacaa 2432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tgagatcaaagaa 859
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE: APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-08-232-463-14/C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STATE: VA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             847
                                                                                                                                                                                                                                                                                                                                                                          2300
                                                                                                                                                                                                                                                                                                                                                                                                                                                2360
                                                                                                                                                                                 g
                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                        ŏ
                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                      ογ
```

```
Sequence 1, Application US/08323170B
Patent No. 573372
GENERAL INFORMATION:
APPLICANT: Williamson, Kim C.
APPLICANT: Williamson, May C.
TITLE OF INVENTION: Cloning and Expression of Plasmodium
TITLE OF INVENTION: faliciparum Transmission-Blocking Target Antigen, Pfs230
NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend and Crew LLP
                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2039 agaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggagagaagaagtggaaga 2098
                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2099 ggtacctgcagaagtagaagtagaagtggaagaggtacctgcagaagtagaagaagtggaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ggtaccagaagaagtagaagaggtacccgcagaagtagaagagtggaagaggtaccaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              agaagtggaagaggtaccagaagtagaagaggtaccagaagaagtggaagaggtacc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2279 agaagaagtggaagaagtggaagaagtagaagaagtagaaggtaccagcggtagtagaagt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2339 agaagtaccagcggtagtagaagaagagtgccagaagaagtagaagaagaagaaga
                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PatentIn Release #1.0, Version #1.30
                                                                                                                                                                                                                                       Query Match 4.2%; Score 141.8; DB 1; Best Local Similarity 2.9%; Pred. No. 5.1e-17; Matches 11; Conservative 296; Mismatches 78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STREET: Two Embarcadero Center, 8th Floor
CITY: San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE:
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/323,170B
FILING DATE: 13-OCT-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/010,409
FILING DATE: 29-JAN-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2399 ggaagaaccagtagaggaagaagat 2423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1089 RRRRRRRRRRRRRRRRAT 1065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
                 LENGTH: 7218 base pair:
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: linear
IMMEDIATE SOURCE:
SEQUENCE CHARACTERISTICS:
                                                                                                                                            ; CLONE: pTZgpt-F1s
US-08-232-463-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               94111-3834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-323-170B-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2159
```

```
ï
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2118 gaagtggaagagtacctgcagaagtagaagtagaagtggaagagtaccagaagaagtagaa 2177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2178 gaggtacccgcagaagtagaagtagaagagtgcaccagaaga---agtggaagagta 2234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2235 ccagaagaagtggaagagtaccagaagagtggaagaggtaccagaagaagtggaagaa 2294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2295 giggaagaagiagaagaagiagagiaccagcggiagiagaagiagaagiaccagcggia 2354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gaagaagatgtattacaattagtaataccatcggaagaagatatacaattagacaaacca 2474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2475 aagaaagacgaattaggctctggaattttatctatcatcgacatgcactaccaagacgtt 2534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1172 GATGAAGATTCTGTAGAAGCACGGGATGGAGATATGATAAGAGTTGACGAATATTATGAA 1231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1472 GGTGAATATGTAGATGAAAAAGAAAGGCAAGGTGAAATATATCCATTTGGTGATGAGGAA 1531
                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                            ÷
۳
                                                                                                                                                                                                                                                                                                                        Query Match
4.1%; Score 138; DB 1; Length 9636;
Best Local Similarity 51.8%; Pred. No. 2.6e-16;
Matches 337; Conservative 0; Mismatches 310; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2535 ccaaaggaatttatggaagaagaagaagaaactgcagtgtatccattgaa 2584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TTGTTTAAATTTATAGAAGGGGGTGAAGGAGATGATGTATAAAAGTGGA 1641
NAME: Quine, Jonathan A.
REGISTRATION NUMBER: P-41,261
REFERENCE/DOCKET NUMBER: 015280-113100US
TELEPHONE: (415) 576-0200
TELEPHONE: (415) 576-0300
TELEPHONE: (415) 576-0300
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 9636 base pairs
TYPE: nuclet acid
STRANDEDNESS: Single
                                                                                                                                                                                       TOPOLOGY: linear
MOLECULE TYPE: DNA (genomic)
                               REFERENCE CONTROLL

TELEPHONE: (415) 576-03

TELEPAX: (415) 576-03

TELEPAX: (415) 576-03

INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 9636 base pain;
TYPE: nucletc acid
STRANBEDNESS: single
TYPE: nuclet acid
STRANBEDNESS: single
TYPE: nuclet acid
STRANBEDNESS: single
TYPE: nuclet acid
STRANBENESS: single
TYPE: DAMA(FARTER)

NOBECULE TYPE: DNA (gence)
FRATURE:
NAME/KRY: CDS

LOCATION: 149.9556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
```

Search completed: June 14, 2002, 15:29:39 Job time: 19070 sec

	•						
			ف				
				•			
			£.				
		9.					
							4
					4		
. 70							
		•					
						•	
•							
		•					
							•
							•
•							-
							- 1.7
						•	

```
Sequence encoding
P. falciparum live
P. falciparum live
D. falciparum live
Murine LOBO genomi
Murine LOBO homolo
Sequence encoding
DNA encoding Leuco
DNA encoding Leuco
Epstein Barr virue
Epstein Barr virue
Nucleotide seque
Nucleotide seque
Anti-sense strand
                                                                                                                                                                                                                                                                                     Nucleotide sequenc
Plasmid pcisEBON f
Plasmid pcisEBON f
Nucleotide sequenc
DNA clone pCEK Cl.
          Canine retinitis p
Canine retinitis p
Mutational hot spo
DNA encoding novel
                                                                                                                                                                                                                                                                                                                                                                                Drosophila melanog
Human dentin sialo
Insert from cosmid
                                                      Kaposi's sarcoma-a
Nucleotide sequenc
KSHV LUR DNA (nucl
                                                                                                                                                                                                                                                              Vector pShuttle DN
Vector plasmid pCM
                                                                                        KSHV long unique c
Bacillus anthracis
                                                                                                   Drosophila melanog
Drosophila melanog
                                                                                                                                                                                                                                                                                                                                             Nucleotide sequenc
DNA encoding novel
                                                                                                                                                                                                                                                                                                                                                                     DNA encoding nove
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /*tag= a
/*tag= a
/note= "encodes initial (N-terminal) sequence
hydrophobic amino acids"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /.noce= "contains typical malaria intervening sequence splice sites splice sites" 231..3197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ESP-1; blood stage antigen; diagnosis; malaria; infection; causative agent; antibody; monoclonal; polyclonal; assay;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P. vivax ESP-1 blood stage antigen coding sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                        ALIGNMENTS
          AAD07131
AAD07132
AAD21685
                                                                                                 ABL05187
ABL05186
AAQ03875
                                                                                                                                                          AAZ23891
AAZ23896
                                                                                                                                                                                                                                                                          AAV21683
AAZ22248
                                                                                                                                                                                                                                        AAA75454
AAX90923
                                                                                                                                                                                                                                                                                                  AAQ51731
AAT40348
                                                                          AAV73805
                                                                                        AAV19941
                                                                                                                                                                                                                                                                                                                         AAX15650
                                                                                                                                                                                                                                                                                                                                                            AAS90730
                                                                                                                                                                                                                                                                                                                                                                                 ABL05274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Plasmodium vivax (clone PvMB3.3.1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /*tag= b
/note= "contains
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAT34620 standard; DNA; 3337
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /*tag= c
                                                                                                  4954
9516
3095
3095
5361
6152
49999
49999
                                                                                                                                                                                                                  1926
1926
                                                                                                                                                                                                                                        2580
5452
8705
9600
10380
10596
10596
16080
799
                                                                                                                                                                                  ноооооооооооооо
12-NOV-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US5532133-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             02-JUL-1996
                                                                           1999
1999
191.8
171.1
170.2
170.2
169.4
168.4
168.4
168.4
                                                                                                                                                                                                         40000000000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAT34620
                                                                                                                                                                                                                              191
                                                                                                                                                                                                                                                                           67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         intron
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Key
Exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAT34620
RESULT
                                                                                                                                                                                                                                                       υυ
                                                                              0000
                                                                                                                                                                                                                                                                                                                                                                      00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (without alignments)
16339.675 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P. vivax ESP-1 blo
DNA encoding a sec
plasmodium vivax E
Chicken leucocytoz
DNA encoding Leuco
Plasmodium falcipa
Canine retinitis p
Bacillus anthracis
Human retinitis pi
                                                                                                                                                                                                                                                                                                                                          **Colleger_Oszoz.**

1. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1981.DAT:*

2. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1981.DAT:*

3. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1981.DAT:*

4. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1981.DAT:*

5. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1981.DAT:*

7. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1986.DAT:*

8. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1986.DAT:*

8. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1980.DAT:*

9. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1980.DAT:*

10. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1980.DAT:*

11. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1990.DAT:*

12. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1990.DAT:*

13. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1990.DAT:*

14. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1990.DAT:*

15. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1990.DAT:*

16. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1990.DAT:*

17. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1990.DAT:*

18. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1990.DAT:*

19. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1990.DAT:*

20. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1990.DAT:*

21. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1990.DAT:*

22. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1990.DAT:*

23. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1990.DAT:*

24. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA2000.DAT:*

25. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA2000.DAT:*

26. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA2000.DAT:*

27. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA2000.ADT:*

28. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA2000.ADT:*

27. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA2000.ADT:*

28. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA2000.ADT:*

27. /SIDS1/gcgdata/geneseq/geneseqn-embl/NA2000.ADT:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Description
                                                                          June 14, 2002, 11:20:08; Search time 350.64 Seconds
                                                                                                                                              ......tcttataaaataaattc
        4.5
Compugen Ltd
                                                                                                                                                                                                                              hits satisfying chosen parameters
                                                                                                                                                                                                       1736436 seqs, 858457221 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SUMMARIES
        GenCore version
Copyright (c) 1993 - 2000
                                                                                                                                                                                                                                                                                    Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAT34620
AAX15174
AAH76457
AAT05868
AAQ87587
AAQ87587
AAD07130
ABA90848
AAD21684
                                                      nucleic search, using sw model
                                                                                                                                                                     IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                        US-09-667-130-1
3337
1 gaattccggtaaagtaacaa.
                                                                                                                                                                                                                                                  length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                  N_Geneseq_032802
1: /SIDS1/acadata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3337
3339
1686
3579
2805
2019
2849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0
100.0
100.0
10.3
8.0
6.6
6.6
```

of sed

Total number Minimum DB s Maximum DB s

Database

Searched:

Perfect score: Sequence: Scoring table:

OM nucleic

Run on

22210111024311100...

of

93US-0072610.

02-JUN-1993;

3337 3337 3337 342.8 268 220 220 219

Score

Result Š

 $\alpha$ 

us-09-667-130-1\_1.rng

```
atgttacgggacaagaattgccaatgaaacctgtaccattaccagtggcagaagagcccg
                                                                                                                                                                                                                                  ctggcgattttggaagcaggggaagaaactggcgatttggaagcagggggaagaagctggtg
                  atttggaagcaggggaagaaactggcgatttggaagcaggggaagaactggagatgcgg
                                                           tacaacctgccgatagtaatgatgccctctttggaagtattttggataaagatataattt
                                                                                                                                                                                                        961 atgttacgggacaagaattgccaatgaaacctgtaccattaccagtggcagaagagcccg
                                                                                                                                                                                                                                                                                             cggaagtgggaccaacggaaggaaggaccaaccgaagaattagatgccactccagaggatg
                                                                                                                                                                                                                                                                                                      ctgcagaaggagaagaaaccgtagagggagaagaaaccgtagagggagaagaaaccgtag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1441 agggagaagaagctgcagaaggagaagaagaagttagaggcaactccagaggatgacttcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gagaagcgttagtagcagtgccagtagtggccgaaccggtagaagtagtgactcctgctc
                                                                                     acacagaagatagttcagctgatggagcagaaaaagtacatgttcctgctcaagaaaatg
                                                                                                                                                                                                                          cycaagtaccaycygaagaattayatyccactccayayyatyacttcycattagatytta
                                                                                                                                                                                                                                                                                                                               ctgcagaaggagaagaaaccgtagagggagaagaaaccgtagaggagaagaaaccgtag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      agggagaagaagctgcagaaggagaagaagagttagaggcaactccagaggatgacttcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        aattagaagaaccatcaggagaagaaggagaaaggggaagaaggagaaggggaaggaag
                                                    901
                                                                                                                                                                                                                                                                                            1141
                                                                                                                                                                                                                                                                                                            1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1561
                                                                   721
                                                                                                    181
                                                                                                                                      841
                                                                                                                                                      901
                                                                                                                                                                                                                                                           1081
                                                                                                                                                                                                                                                                            1081
                                                                                                                                                                                                                                                                                                                              1201
                                                                                                                                                                                                                                                                                                                                              1201
                                                                                                                                                                                                                                                                                                                                                                1261
                                                                                                                                                                                                                                                                                                                                                                                1261
                                                                                                                                                                                                                                                                                                                                                                                                                                  1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                   1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1621
                                                  721
                                                                                   781
                                                                                                                                                                                       961
                                 qq
                                                                 Db
                                                                                                    g
                                                                                                                                    οq
                                                                                                                                                      ò
                                                                                                                                                                    g
                                                                                                                                                                                       ά
                                                                                                                                                                                                        g
                                                                                                                                                                                                                         Ω
                                                                                                                                                                                                                                        QQ
                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                            Op
                                                                                                                                                                                                                                                                                                                              Ω
                                                                                                                                                                                                                                                                                                                                             Db
                                                                                                                                                                                                                                                                                                                                                               Ωÿ
                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                                                                                                  ^{\circ}
                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δý
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δý
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                  δy
                                                  Ω
                                                                                    ò
                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                   ó
                                                                                                                                   The present sequence encodes a species-specific Plasmodium vivax malarial antigen, PvESP-1. The gene appears to be missing a small portion of its 5' end. This protein is secreted into the plasma of a susceptible mammalian host after infection. Monoclonal/polyclonal antibodies can be utilised in assays used to diagnose malaria, as well as to determine whether P. vivax is the species responsible for the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   099
                                                                                                                                                                                                                                                                                                    ttttgcttttcttttaattcatgcttcaacagtaagataaaaataatctataaaaactgc 120
                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  900
                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                    9
                                                                                    d to
species
                                                                                                                                                                                                                                                                           ttttgcttttcttttaattcatgcttcaacagtaagataaaaataatctataaaaactgc
                                                                                                                                                                                                                                                                                                                                      aattggaaaaatgcttctgatgatgttgtagaggtggaggatccttcaaacgacggtttag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      atggctcaacagatgatacggaaacagaagaaggactacctggtgatatggaaggagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ctggcgatttggaagcaggggaagaaactggcgatttggaagcaggggaagaagctggtg
                                                                                                                                                                                                                                                                                                                                                                        cccccgaagatgactttgccttaacagatttgccaattgaagacgatgaggaagtcaacg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                aaacgttagatggaggtgaatcattaggaggtttccactgaagatatggaaacagaag
                                                                                                                                                                                                                                  3337
                                                                                                                                                                                                                                                   ö
                                                                                    used
the s
                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                        other
                                                                                   antigens -
P. vivax is
                                                                                                                                                                                                                                  17;
                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                   ó;
                                                                                                                                                                                                        Τ;
                                                                                                                                                                                                                                  DB
                                                                                 Antibodies to Plasmodium vivax blood stage an diagnose malaria and to determine whether P. responsible for infection
                                                                                                                                                                                                        691
                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                 100.0%; Score 3337; 100.0%; Pred. No. 0;
                                                                                                                                                                                                        ë
                                                                                                                     English.
                                                                                                                                                                                                        875
                                                                                                                                                                                                        ວ່
                                                                                                                                                                                                                                                 . 0
                                                                                                                    Example 4; Column 15-20; 22pp;
                                                                                                                                                                                                        BP; 1304 A; 467
                         STATE
                                                                                                                                                                                                                                                   Conservative
                         YORK
                                                        WPI; 1996-321110/32.
P-PSDB; AAR98747.
                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 3337; Conserv
                         NEW
                                                                                                                                                                                                        Sequence 3337
                        (UYNY ) UNIV
                                          3
                                         Barnwell
                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   601
                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
a
                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                    δý
                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                      Q
P
                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                         οχ
                                                                                                                                                                                                                                                                                                                                                                                                                                                     음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
```

ᠬ

2821 ggagcgacg           2821 ggagcgacg	2881 acttgaaaa           2881 acttgaaaa	2941 tgtcacaat           2941 tgtcacaat		3061 ctaagagto 		3181 cattggaaa 	0 – 0	3301 aaaagaaca 	RESULT 2 AAX15174 ID AAX15174 stand	AAX15174; 28-APR-1999 (	DNA er	blood-stage Plasmodium v		exon intron	exon	_	23-FEB-1999. 30-SEP-1996; 02-JUN-1993;	
oy Db	QV Db	da da	o P	Oy Db	Qy Dp	OY Db	ςς Od O	Oy Db	RE ID	PX XX	XXDX	XX XX	FH FT FT			XXX	7 X X X X X X X X X X X X X X X X X X X	
													•					
1800	186 186			2040	9 2100   9 2100	g 2160   g 2160	2220	g 2280   g 2280	g 2340 l g 2340	g 2400 g 2400	2460	25 25	2580	c 2640     2640	t 2700   t 2700	t 2760 L 2760 L 2760	t 2820   t 2820	
ata 	3 ca 3 a g 1 - 1	tattagaag	Jaagtgc              Jaagtgc	caggag	jaagagg 	jaagagg 	cagaag 	taccag           taccag	ta – g	<u>m</u> – m	Jatatac 	Jacatgo 	atccat	tcatto	yaaagat         yaaagat	<u></u>	gagagt          gagagt	
cctgtac	cetytaceastceastceastceastceastceastceastcea	ttagtal        ttagtal	gaaggad         gaaggad	gaaccaa         gaaccaa	gaagtge           gaagtge	gaagtge           gaagtge	gaggtac          gaggtac	gaagage          gaagage	gtagtag         gtagtag	gaagaad         gaagaad	gaagaag	atcatco	gcagtg1         gcagtg1	ctcaca!	gctagae        gctagae	gaaaata        gaaaata	agaaaa        agaaaa	
gaagca	gaagca ttgatg 	ggagaa 	ccaaca 	ttagaa         ttagaa	ggagaa        ggagaa	gtagaa        gtagaa	gtggaa        gtggaa	gaagtg        gaagtg	ccagcg	gaagaa         gaagaa	ccatcg	ttatct	gaaact         gaaact	gaatgg         gaatgg	aataag         aataag	ttaatt 	ggtttg         ggtttg	
aggatcctgatgcaggagaggctgtaacagtaccatcaaaggaagcacctgtacaa	arycayyayayyyctytaacaytaccatcaaayyaaycacccytacaa; tayyycccycyccaayaaytyccaacgyaayaattyatycaactccaa; tallilililililililililililililililililil	acgattcgaattagaaggaactgcagaagctccagaggaagga		cagaagaatattagaggcaactccagaggacgatttcgaattagaagaaccaacagga; 	agaagtagaagaaaccgtagagggcgaagaactgcagaaggagaagaagtggaagag 	tacctgcagaagtagaagaagtggaagaggtacctgcagaagtagaagtagaagtggaagag; 	taccagaagaagtagaaggtacccgcagaagtagaagaagtggaagaggtaccagaag 	agtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtaccar 	agaagtggaagaagtggaagaagtagaagaagtagaggtaccagcggtagtagaaa 	aagtaccagcggtagtagtagaagagagtgccagaagaagtagaagaagaagaagaagaagaaga 	tagaggaagaagatgtattacaattagtaataccatcggaagaagatatac 	aattagacaaaccaaagaaagacgaattaggctctggaattttatctatc	octaccaagacgttccaaaggaatttatggaagaagaagaagaaactgcagtgtatccal 	tgaaaccagaagattttgcaaaggaagattcacaatctacagaatggctcacattcatt	aaggcctagaaggcgactgggaacgattagaagtgagcttaaataaggctagagaaagat 	ggatggaacaaagaaataaagaatgggctggctggcttcgcttaattgaaaataaat	cagaatatagtcaaatttcaacaaaggaaaggaccagctggtttgagaaacgagag 	
agtacce 	gccaacc	agetees 	aagagaa         aagagaa	ggacgat         ggacgat	agaaact                 agaaact	ggtacct         ggtacct	agaagta         agaagta	agaggte         agaggte	agaagta          agaagta	gccagaa         gccagaa	acaatte 	aggetet 	ggaagaa          ggaagaa	ttcacaa         ttcacaa	agaagte           agaagte	tggctgg          tggctgg	aaaggac                   aaaggac	
tgtaac 	rytaac agaagt 	tgcaga 	agagcca 	tccaga        tccaga	999cga         1999cga	ggaaga        ggaaga		agtggaa        agtggaa	agtaga        agtaga	agaggte        agaggte	tgtatta 	cgaatt	atttat        atttat	ggaaga        ggaaga	acgatta          acgatta	atgggc        atgggc	aaaagg         aaaagg	
agagge 	ayayyc cgcgca  cqcqca	aggaac 	ggaaga         ggaaga	ggcaac         ggcaac	cgtaga        cgtaga	agaagt        agaagt	agaggt        agaggt	agaaga        agaaga	ggaaga        ggaaga	agaaga        agaaga	agaaga 	gaaaga         qaaaga	aaagga          aaagga	tgcaaa        tgcaaa	ctggga        ctggga	taaaga        taaaga	ttcaac         ttcaac	
tgcagg 	Lycayy agggcc 	attaga         attaga	accaac 	attaga         attaga	agaaac        agaaac	agtaga        agtaga	agtaga        agtaga	ggtacc        ggtacc	agaagt        agaagt	ggtagt        ggtagt	agagga 	accaaa 	cgttcc        cgttcc	agattt        agattt	aggcga          aggcga	aagaaa        aagaaa	tcaaat        tcaaat	
tcctga	ayya cccuya cagtggcagt                caqt	tttcga 	aggaga         aggaga	agaaga              agaaga	agtaga         agtaga	tgcaga        tgcaga	agaaga        agaaga	ggaaga        ggaaga	agtgga         agtgga	accago        accago	aagaaccagt	agacaa 	ccaaga 	accaga        accaga	cctaga         cctaga	ggaaca        ggaaca	atatag         atatag	
									<b>a</b> — a									
1741	1801	1861	1921	1981	2041	2101	2161	2221	2281	2341	2401	2461	2521	2581	2641	2701	2761	
δδ.	8 8 8	oy ob	Q D	O P	9 9	\$ 6 6	Qy Db	Qy Gp	oy ob	Oy Dp	Q D	oy ob	Qy Dp	O P	Oy Dp	Oy Dp	Oy Dp	

```
secreted protein-1; PVESP-1; malarial antigen; protein; malaria; monoclonal antibody ID11G10; ds
                                                                                                                                                                                                                                                                                                   a secreted blood-stage protein called PvESP-1.
                                                                                                                                                                                                               Location/Qualifiers
1.3197
/*tag= a
/note= "contains 1 intron"
1.91
/*tag= b
/number= 1
92..230
/*tag= c
                                                                                                                                                                                                                                                             BP
                                                                                                                                                                                                                                                             dard; DNA; 3337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    93US-0072610.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       96US-0719822
                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                           /number= 1
231..3194
/*tag= d
/number= 2
                                                                                                                                                                                                                                                                                                                                     vax.
```

```
The present sequence encodes a C-terminal erythrocyte secreted protein-1 (PvESP-1) of Plasmodium vivax. PvESP-1 is a malarial antigen which is a secreted blood-stage protein present in detectable amounts in biological samples from individuals infected with P. vivax. The protein comprises an epitope not present in other Plasmodium species that cause malaria in humans, and is bound by monoclonal antibody 1D11G10. The peptide antigen can be used in immunoassays for diagnosis of malaria caused by P. vivax and/or can be used to produce antibodies
                                                                                                                                                   caused
                                                                                                                                                    malaria
                                                                                                                                                                                                                                                                                                                                                                            other;
                                                                                                                                                 эę
                                                                                                                                                                                                                                                                                                                                                                          Sequence 3337 BP; 1304 A; 467 C; 875 G; 691 T; 0
                                                                                                                                                   diagnosis
                                                                                                                                                 - for
                                                                                                                                                                                             23pp; English
                                                                                                                                                 Plasmodium vivax peptide antigen
                                                                                                                                                                                                                                                                                                                                                in such immunoassays.
95US-0478417.
                                           NEW YORK STATE
                                                                                                                                                                                              5A-C;
                                                                                                    WPI; 1999-180063/15.
P-PSDB; AAW97039.
                                                                                                                                                                  Plasmodium vivax
                                                                                                                                                                                           Example 4; Fig
                                           (UYNY ) UNIV
07-JUN-1995;
30-SEP-1996;
                                                                          Barnwell JW
                                                                                                                                                                                                                                                                                                                                                nse
                                                                                                                                                                  ρχ
```

ö 180 240 240 360 480 540 540 120 120 180 300 300 360 420 420 480 Gaps 9 9 aattagaagagaaaattttgatgagaattcaggtgatgatgaagctcttttagatgcta cccccgaagatgactttgccttaacagatttgccaattgaagacgatgaggaagtcaacg atggctcaacagatgatacggaaacagaagaaggactacctggtgatatggaaggagaag atggctcaacagatgatacggaaacagaaagaaggactacctggtgatatggaaggagaag coccogaagatgactttgccttaacagatttgccaattgaagacgatgaagtcaacg Length 3337; .; 0 Indels 20; ; DB 100.0%; Score 3337; ilarity 100.0%; Pred. No. 0; Conservative 0; Mismatches Best Local Similarity Matches 3337; Conserv Match 61 61 121 121 181 181 241 241 301 361 361 481 301 421 421 481 Query g ò qq qq q QQ Op g g ò οý Óγ ó Ş οy ò g οŽ

600

aagaagctggcgatatggaagcaggggaagaagctggtgatttggaagcaggggaagaaa

ctggcgatttggaagcaggggaagaaactggcgatttggaagcaggggaagaagctggtg

601

à

541

g

541

ò

```
1080
                                                                                                                                                                              960
                                                                                                                                                                                       atgttacgggacaagaattgccaatgaaacctgtaccattaccagtggcagaagagcccg
                                                                                                                                                                                                                                                       cagaatctcccgaggaagtagaattagtattagatgaagaaggcaactgaagaagaatcaa
                                                                                                                                                                                                                                                                                                                                           agcotgtcaaaccaatggtcgctccaacggcagatgaaactttattcgttgatatcttag
tacaacctgccgatagtaatgatgccctctttggaagtattttggataaagatataattt
                                                                                                                                                  ttgatcatattaaagatttcgagccactattcgaacaaattgtggcgggtactgctaaac
                                                                                                                                                                                                                                     atgttacgggacaagaattgccaatgaaacctgtaccattaccagtggcagaagagcccg
                                                                                                                                                                                                                                                                                             cagaatctccccgaggaagtagaattagtattagatgaagaggcaactgaagaagaatcaa
                                                                                                                                                                                                                                                                                                                                  cggaagtgggaccaacggaagaaggaccaaccgaagaattagatgccactccagaggatg
                                                                                                                                                                                                                                                                                                                                                                                                                                             aggcaactccagaggatgatttcgcattagatggaactacattagaagaagccgaagaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                              aggcaactccagaggatgatttcgcattagatggaactacattagaagaaaccgaagaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ctgcagaaggagaaaccgtagaggagaaaaccgtagaggagaaaccgtag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    agggagaagaagctgcagaaggagaagaagaagttagaggcaactccagaggatgacttcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              agcctgtcaaaccaatggtcgctccaacggcagatgaaactttattcgttgatatcttag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ataaogatttaacgtatgcagacattacatcctttgagccattatttaaacaaatcctca
                                              atttggaagcaggggaagaactggcgatttggaagcaggggaagaactggagatgcgg
                                                                                                      acacagaagatagttcagctgatggagcagaaaaagtacatgttcctgctcaagaaaatg
                                                                                                                       acacagaagatagttcagctgatggagcagaaaaagtacatgttcctgctcaagaaaatg
                                                                                                                                                                                                                                                                                                     1021
                                                                                                                                                                                                                                                                                                              1081
                                                                                                                                                                                                                                                                                                                                 1141
                                                                                                                                                                                                                                                                                                                                                   1141
                                                                                                                                                                                                                                                                                                                                                                                       1201
                                                                                                                                                                                                                                                                                                                                                                                                                           1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                              1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1561
                                             661
                                                                                  721
                                                                                                                       781
                                                                                                                                         841
                                                                                                                                                            841
                                                                                                                                                                                                901
                                                                                                                                                                                                                                    961
                                                                                                                                                                                                                                                       1021
                                                                                                                                                                                                                                                                                            1081
                                                                                                                                                                                                                                                                                                                                                                                                         1261
                                                                                                                                                                                                                                                                                                                                                                                                                                              1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1621
        601
                           199
                                                               721
                                                                                                      781
                                                                                                                                                                              901
                                                                                                                                                                                                                    196
                                                                                                                                                                                                                                                                                                                                                                      1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1681
                           δ
                                             d
                                                               ò
                                                                               g
                                                                                                      ŏ
                                                                                                                      g
                                                                                                                                         Qγ
                                                                                                                                                          g
                                                                                                                                                                              δ
                                                                                                                                                                                              Db
                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                   pp
                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                           òγ
                                                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                    Ω
                                                                                                                                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                             φ
                                                                                                                                                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                pp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ŏ
```

S

g

ò

ò

ò

```
tgaaatggtttctcctaaaagaaaacgaatatttaggacaaagaatggaaaaatggact
     ggagcgacgagaaatggaaaaatggtttaaagcagaagtcaaatcccaaattgattcac
                                                                                                                                                                                                                                        ESP-1; erythrocyte secreted protein-1; PvESP-1; malarial peptide antigen; infection; diagnosis;
                                                                                                                                                               3337
                                                                                                                                                               Location/Qualifiers
1.3197
//trag= a
//product= "ESP-1"
1.91
                                                                                                                                                                                                 ВР
                                                                                                                                                                                                                                                                                                                                                               98US-0092458
                                                                                                                                                                                                                                                                                                   /number 1
92..230
/*tag c
/number 1
231..3197
/*tag d
/number 2
                                                                                                                                                                                                                               DNA.
                                                                                                                                                                                                                     entry)
                                                                                                                                                                                                                               vivax ESP-1
                                                                                                                                                                                                                     (first
                                                                                                                                                                                                 standard;
                                                                                                                                                                                                                                        Plasmodium vivax;
species-specific;
                                                                                                                                                                                                                                                            Plasmodium vivax.
                                                                                                                                                                                                                                                                                                                                                               05-JUN-1998;
                                                                                                                                                                                                                                                                                                                                           JS6231861-B1
                                                                                                                                                                                                                     22-OCT-2001
                                                                                                                                                                                                                                                  malaria; ds
                                                                                                                                                                                                                                                                                                                                                     15-MAY-2001
                                                                                                                                                                                                                               Plasmodium
                                                                                                                                                                                                 AAH76457
                                                                                                                                                                                                           AAH76457
                                                                                                                                                                                                                                                                                                         intron
                                                                                                                                                      3241
                                                                                                                         3181
                                                                                                                                            3241
                                                                                                                                                               3301
                                                                                                                                                                         3301
     2821
              2821
                                 2881
                                           2941
                                                                        3001
                                                                                  3061
                                                                                           3061
                                                                                                     3121
                                                                                                               3121
                                                                                                                                  3181
                                                                                                                                                                                                                                                                                          exon
                                                                                                                                                                                                                                                                                                                        exon
                        2881
                                                              3001
                                                                                                                                                                                            RESULT
                                                                                                                                                    qq
                                                                                                                                                                       g
     ò
            В
                       οy
                               ద
                                          ò
                                                   g
                                                              P
P
                                                                                  δ
                                                                                         g
                                                                                                   ò
                                                                                                             D
                                                                                                                        ò
                                                                                                                               g
                                                                                                                                           ò
                                                                                                                                                                ŏ
                                                                            1980
                                                                                                2040
                                                                                                          2100
                                                                                                                    2100
                                                                                                                              2160
                                                                                                                                       2160
                                                                                                                                                 2220
                                                                                                                                                          2220
                                                                                                                                                                    2280
                                                                                                                                                                              2280
                                                                                                                                                                                       2340
                                                                                                                                                                                                 2340
                                                                                                                                                                                                           2400
                                                                                                                                                                                                                    2400
                                                                                                                                                                                                                              2460
                                                                                                                                                                                                                                        2460
                                                                                                                                                                                                                                                                                                             2700
                                                                                                                                                                                                                                                                                                                       2700
                                                                                                                                                                                                                                                                                                                                                               2820
                                                                                                                                                                                                                                                                                                             actaccaagacgttccaaaggaatttatggaagaagaagaagaaactgcagtgtatccat
                                                                                                                                                                                                                                                                                          gagaaggagaaccaacggaagaagaccaagagaagaagagaccaacagaaggagaagtgc
                                                                         taccagaagaagtagaagagtacccgcagaagtagaagaagtggaagaggtaccagaag
                                                                                                                                                                         actaccaagacgttccaaaggaatttatggaagaagaagaagaaactgcagtgtatccat
                                                                                                                                                                                                                                                                                                    ataacgatttaacgtatgcagacattacatcctttgagccattatttaaacaaatcctca
                                                                                       cagaagaagaattagaaggcaactccagaggacgatttcgaattagaagaaccaacaggag
                                                                                                                                                           taccagaagaagtagaagaggtacccgcagaagtagaagaagtggaagaggtaccagaag
                                                                                                                                                                     aagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtaccag
                                                                                                                                                                                        aagaagtggaagaagtggaagtagaagtagaagtagaggtaccagcggtagtagaagtag
                                                2521
                                                                                                                                                                                                                                                                                                                       2641
                                                                                                                                                                                                                                                                                                                                          2701
                                                                                                                                                                                                                                                                                                                                                              2761
1681
         1741
                                      1801
                                                         1861
                                                                                                          2041
                                                                                                                   2041
                                                                                                                                      2101
                                                                                                                                                          2161
                                                                                                                                                                    2221
                                                                                                                                                                             2221
                                                                                                                                                                                       2281
                                                                                                                                                                                                2281
                                                                                                                                                                                                          2341
                                                                                                                                                                                                                    2341
                                                                                                                                                                                                                              2401
                                                                                                                                                                                                                                       2401
                                                                                                                                                                                                                                                 2461
                                                                                                                                                                                                                                                           2461
                                                                                                                                                                                                                                                                     2521
                                                                                                                                                                                                                                                                                         2581
                                                                                                                                                                                                                                                                                                   2581
                                                                                                                                                                                                                                                                                                             2641
                                                                                                                                                                                                                                                                                                                                 2701
                                                                                                                                                                                                                                                                                                                                                     2761
                            1801
                                                1861
                                                                  1921
                                                                            1921
                                                                                      1981
                                                                                                1981
                                                                                                                             2101
                                                                                                                                                2161
                                              9 6
9 6
                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                           8
g
        ò
                 a
                                                                         g
                                                                                             g
                                                                                                                  g
                                                                                                                            9
6
                                                                                                                                              oy ob
                                                                                                                                                                          g
                                                                                                                                                                                      õ
                                                                                                                                                                                              QQ
                                                                                                                                                                                                       õ
                                                                                                                                                                                                                 QQ
                                                                                                                                                                                                                          õ
                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                               9
9
                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                 ò
```

```
841
                                                                                                                                                                                                                                                                                                                                                                                                            1141
                                                                                        661
                                                                                                            721
                                                                                                                                                  781
                                                                                                                                                                      781
                                                                                                                                                                                         841
                                                                                                                                                                                                                               901
                                                                                                                                                                                                                                                  901
                                                                                                                                                                                                                                                                                         961
                                                                                                                                                                                                                                                                                                             1021
                                                                                                                                                                                                                                                                                                                                1021
                                                                                                                                                                                                                                                                                                                                                   1081
                                                                                                                                                                                                                                                                                                                                                                       1081
                                                                                                                                                                                                                                                                                                                                                                                         1141
                                                                                                                                                                                                                                                                                                                                                                                                                               1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                  1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1621
                              601
                                                                    661
                                                                                                                               721
                                                                                                                                                                                                                                                                      961
                                                                                                                                                                                                                                                                                                                                                                     Op
                                                                                                                                                                                                                                                                                                                                                                                                         Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                              ŏ
                                                g
                                                                                       g
                                                                                                                               g
                                                                                                                                                                    g
                                                                                                                                                                                        Qγ
                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                 Dp
                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                               Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             q
                                                                    ò
                                                                                                            ò
                                                                                                                                                 ò
                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                     οy
                                                                                                                                                                                                                                                                                                             οy
                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                         δý
                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                  New species-specific Plasmodium vivax malarial peptide antigens, proteins or fragments secreted into the plasma of susceptible mammalian host after infection, useful for diagnosing malaria
                                                                                                                                                                                                   after
                                                                                                                                                                                     malarial peptide antigens which are proteins or fragments of proteins secreted into the plasma of a susceptible mammalian host after infection, and to monoclonal or polyclonal antibodies directed against those antigens. The peptide antigens, monoclonal antibodies, and/or polyclonal antibodies are useful in assays to diagnose malaria, and to determine which P. vivax species is responsible for the infection. The present sequence encodes P. vivax erythrocyte secreted protein-1 (PVESP-1), a secreted species-specific blood stage antigen provided in the invention.
                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         009
                                                                                                                                                                                                                                                                                                                                                                                                   ttttgcttttcttttaattcatgcttcaacagtaagataaaaataatctataaaaactgc 120
                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                 aagaagctggcgatatggaagcaggggaagaagctggtgatttggaagcaggggaagaaa
                                                                                                                                                                                                                                                                                                                                                            tatatatacatatattcataagtggcatttgtgaattgcgatcatttaaatttacgta
                                                                                                                                                                                                                                                                                                                                                                                                                                                  aattggaaaatgcttctgatgatgttgtagaggtggaggatccttcaaacgacggtttag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             aattagaagaagaaattttgatgagaattcaggtgatgatgaaactcttttagatgcta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             aattggaaaatgcttctgatgatgtgtagaggtggaggatccttcaaacgacggtttag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aattagaagaggaaaattttgatgagaattcaggtgatgatgaagctcttttagatgcta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cccccgaagatgactttgccttaacagatttgccaattgaagacgatgaagtcaacg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             aaacgttagatggaggtgaatcattaggagaggtttccactgaagatatggaaacagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aaacgttagatggaggtgaatcattaggagaggtttccactgaagatatggaaacagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  atggctcaacagatgatacggaaacagaaggaggactacctggtgatatggaaggagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     atggctcaacagatgatacggaaacagaaggaggactacctggtgatatggaaggagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     invention relates to novel species-specific Plasmodium vivax
                                                                                                                                                                                                                                                                                                                       3337;
                                                                                                                                                                                                                                                                                                                                         ;
0
                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                        0 other;
                                                                                                                                                                                                                                                                                                                      22;
                                                                                                                                                                                                                                                                                        BP; 1304 A; 467 C; 875 G; 691 T;
                                                                                                                                                                                                                                                                                                                      DB
                                                                                                                                                                                                                                                                                                                     100.0%; Score 3337;
100.0%; Pred. No. 0;
iive 0; Mismatches
                                                                                                                                                           23pp; English
        93US-0072610.
95US-0478417.
96US-0719822.
                                                YORK STATE
                                                                                                                                                                                                                                                                                                                               Best Local Similarity 100 Matches 3337; Conservative
                                                                                      WPI; 2001-335068/35
P-PSDB; AAG66528.
                                                                                                                                                            5.
                                                 NEW
                                                                                                                                                           Fig
                                                                                                                                                                                                                                                                                        Sequence 3337
        02-JUN-1993;
07-JUN-1995;
30-SEP-1996;
                                                UYNY ) UNIV
                                                                   Barnwell JW
                                                                                                                                                            Example 4;
                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                 qq
ð
                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                       οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
```

```
gagaagcgttagtagcagtgccagtagtggccgaaccggtagaagtagtgactcctgctc 1620
                                                                                                                                                                                                              780
                                                                                                                                                                                                                                                  780
                                                                                                                                                                                                                                                                                        840
                                                                                                                                                                                                                                                                                                                                                                                                    900
                                                                                                                                                                                                                                                                                                                                                                                                                                          960
                                                                                                                                720
                                                                                                                                                                        720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   agcctgtcaaaccaatggtcgctccaacggcagatgaaactttattcgttgatatcttag
                                                                                              ctggcgatttggaagcagggaagaaactggcgatttggaagcaggggaagaagctggtg
                                                                                                                                    gagaagcgttagtagcagtgccagtagtggccgaaccggtagaagtagtgactcctgctc
                    aagaagctggcgatatggaagcaggggaagaagctggtgatttggaagcaggggaagaaa
                                                                                                                                                                      atttggaagcaggggaagaaactggcgatttggaagcaggggaagaaactggagatgcgg
                                                                                                                                                                                                                acacaqaaqatagttcagctgatggagcagaaaaagtacatgttcctgctcaagaaaatg
                                                                                                                                                                                                                                                                                                                              acacagaagatagttcagctgatggagcagaaaaagtacatgttcctgctcaagaaaatg
                                                                                                                                                                                                                                                                                                                                                                  tacaacctgccgatagtaatgatgccctctttggaagtattttggataaagatataattt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cgcaagtaccagcggaagaattagatgccactccagaggatgacttcgcattagatgtta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cgcaagtaccagcggaagaattagatgccactccagaggatgacttcgcattagatgtta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cagaatctccccgaggaagtagaattagtattagatgaagaggcaactgaagaagcaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cggaagtgggaccaacggaagaagaaggaccaaccgaagaattagatgccactccagaggatg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cggaagtgggaccaacggaaggaaccaaccgaagaattagatgccactccagaggatg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gatttcgcattagacgaaactgcagaaggagaaacagaagaaacgtagagggagagaagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gatttcgcattagacgaaactgcagaaggagaaacagaagaaacgtagaggagaagaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cagaagaagctgcagaaggagaagtatcagaagaaactccagaaggagaagaagttag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           aattagaagaaccatcaggagaaaggagaaggggaaggagaaggagaagggggaaggaagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          aattagaagaaccatcaggagaagaaggagaaaggggaaaggagaaggggaaggaag
```

3120 3120 3180 3300

^

```
protection;
                                                                                                                                                                                                            aacggggttatggttctgaatcatttgaagttatgaccacatcaaaattattaaatgtgg
                                                                                                               ctaagagtcgagaatggtaccgtgccaatcctaatataaatagagaagagaactca
                                                                                                                                        tgaaatggtttctcctaaaagaaaacgaatatttaggacaaagaatggaaaaatggact
        cagaatatagtcaaatttcaacaaaggaaaggacccagctggtttgagaaacgagagt
             fragment referred to in the claims, for
use as insert in a recombinant vaccine
against chicken leucocytozoan disease"
                                                                                                                                                                                                                                                                                                                     for
                                                                                                                                                                                                                                                                                                                     immunogenic protein
                                                                                                                                                                                                                                                                                                                                  recombinant
                                                                                                                                                                                                                                    Location/Qualifiers
1.3399
/*tag= a
1150.3218
/*tag= b
                                                                                                                                                                                                                                                                                                                     encoding
                                                                                                                                                                                                                                                                                                                                  immunogen;
                                                                                                                                                                                                                                                                                                                                                                                               /note= "fragment
                                                                                                                                                                                                                                                                                ВР
                                                                                                                                                                                                                                                                                                                                        SS
                                                                                                                                                                                                                                                                                 3399
                                                                                                                                                                                                                                                                                                                                                                                                                                                 94JP-0080643
                                                                                                                                                                                                                                                                                                                                                                                                                                                              94JP-0080643
                                                                                                                                                                                                                                                                                                                                        vaccination;
                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                     Chicken leucocytozoan DNA
                                                                                                                                                                                                                                                                                                                                  leucocytozoan;
                                                                                                                                                                                                                                                                                                                                                    leucocytozoan
                                                                                                                                                                                                                                                                                 standard;
                                                                                                                                                                                                                                                                                                                                        immunisation;
                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                 19-APR-1994;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              19-APR-1994;
                                                                                                                                                                                                                                                                                                         14-AUG-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                     31-OCT-1995
                                                                                                                                                                                                                                                                                AAT05868
                                                                                                                                                                                                                                                                                            AAT05868;
                                                                                                                                                                                                                                                                                                                                                    Chicken
                                                                                                                                                                                                                                                                                                                                  Chicken
                                                                                                                                                                                                                                                                    4
                                                                                                                                                          3121
                                                                                                                                                                                                                        3241
                   2761
                                           2821
                                                        2881
                                                                    2881
                                                                                2941
                                                                                                                     3001
                                                                                                                                              3061
                                                                                                                                                                      3121
                                                                                                                                                                                    3181
                                                                                                                                                                                               3181
                                                                                                                                                                                                                                                3301
                                                                                                         3001
                                                                                                                                                                                                                                     3301
                                                                                                                                                                                                                                                                        0y
0y
0b
               g
                                                                                                     Oy
Oy
                                                                                                                                          g
                                                                                                                                                         ò
                                                                                                                                                                   QQ
                                                                                                                                                                                            g
                                                                                                                                                                                                           ò
                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                    ŏ
                                                                                                                                                                                                                                                g
       ò
                           S
S
                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                    2460
                                                                                                                                       2040
                                                                                                                                                                2100
                                                                                                                                                                             2100
                                                                                                                                                                                                                                                                                            2400
                                                                                                                                                                                                                                                                                                        2400
                                                                                                                                                                                                                                                                                                                                 2460
                                                                                                                                                                                                                                                                                                                                              2520
                                                                                                                                                                                                                                                                                                                                                                                                2640
                                                                                                                                                                                                                                                                                                                                                                                                                                                              2760
                                     agcctgtcaaaccaatggtcgctccaacggcagatgaaactttattcgttgatatcttag
                                                                                                                                                                                                                                                                                                                                                                                                                                                aagtaccagcggtagtagaagaagaagtgccagaagaagtagaagaagaagaagaagaggg
                                                                                                                                                                                                                                                                                                                                                                      actaccaagacgttccaaaggaatttatggaagaagaagaagaaactgcagtgtatccat
                                                                                                                                                                                                                                                                                                                                                                                                                                    aaggoctagaaggogactgggaacgattagaagtgagottaaataaggoctagaaagat
            cagtggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaactccaagagg
                                                                    aagaagtagaagaaaccgtagaggggaagaaactgcagaaggagaagaagtggaagagg
                                                                                                                                                                             aagaagtagaagaaaccgtagagggcgaagaaactgcagaaggagaagaagtggaagagg
                                                                                                                                                                                          tacctgcagaagtagaagaagtggaagaggtacctgcagaagtagaagtggaagagg
                                                                                                                                                                                                      tacctgcagaagtagaagaagtggaagaggtacctgcagaagtagaagtggaagagg
                                                                                                                                                                                                                  taccagaagaagtagaaggtacccgcagaagtagaagaagtggaagaggtaccagaag
                                                                                                                                                                                                                                                                   aagaagtggaagaagtggaagaagtagaagtagaagtagaggtaccagcggtagtag
                                                                                                                                                                                                                                                                                aagaagtggaagtggaagtagaagtagaagtagaggtaccagcggtagtagaagtag
                                                                                                                                                                                                                                                                                                         aagtaccagcggtagtagaagaaggtgccagaagaagtagaagaagaagaagaaga
                                                                                                                                                                                                                                                                                                                                                                                    actaccaagacgttccaaaggaatttatggaagaagaagaagaagctgcagtgtatccat
                                                                                                                                                                                                                                                                                                                                                                                                                         aaggoctagaaggogactgggaacgattagaagtgagcttaaataaggottagagaagat
                        1681
                                                                                                 1861
                                                                                                                          1921
                                                                                                                                                   1981
                                                                                                                                                                            2041
                                                                                                                                                                                                     2101
                                                                                                                                                                                                                             2161
                                                                                                                                                                                                                                                      2221
                                                                                                                                                                                                                                                                  2281
                                                                                                                                                                                                                                                                               2281
                                                                                                                                                                                                                                                                                                        2341
                                                                                                                                                                                                                                                                                                                                 2401
                                                                                                                                                                                                                                                                                                                                                        2461
                                                                                                                                                                                                                                                                                                                                                                                  2521
                                                                                                                                                                                                                                                                                                                                                                                                           2581
                                                                                                                                                                                                                                                                                                                                                                                                                                    2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                            2701
                                     1741
                                                             1801
                                                                         1801
                                                                                      1861
                                                                                                              1921
                                                                                                                                       1981
                                                                                                                                                               2041
                                                                                                                                                                                        2101
                                                                                                                                                                                                                 2161
                                                                                                                                                                                                                                          2221
                                                                                                                                                                                                                                                                                            2341
                                                                                                                                                                                                                                                                                                                    2401
                                                                                                                                                                                                                                                                                                                                             2461
                                                                                                                                                                                                                                                                                                                                                                      2521
                                                                                                                                                                                                                                                                                                                                                                                               2581
                                                                                                                                                                                                                                                                                                                                                                                                                        2641
                                                                                                                                                                                                                                                                                                                                                                                                                                                2701
                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                             9 % a
                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                           oy
Op
                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
g
           ò
                     a
                                 õ
                                             Ω
                                                           õ
                                                                     g
o
                                                                                              9 % a
                                                                                                                                   9
9
9
                                                                                                                                                                                     ò
                                                                                                                                                                                                 9 %
9
                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                  9 %
6
                                                                                                                                                                                                                                                                                        o
o
                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                  õ
                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
```

1672 atatottagataacgatttaacgtatgcagacattacatoctttgagccattatttaaac 1731

ω

```
4
                                                                                                                                                                      AAT05868 encodes a chicken leucocytozoan immunogenic protein, this DNA or a fragment of it can be used in a recombinant vaccine to immunise against chicken leucocytozoan disease. The DNA is used in a vector and operatively linked to an expression regulatory sequence as in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gagaagaaacagaagaagctgcagaaggagaagtatcagaagaaactccagaaggagaag 1311
| |||||| |||||| || || ||| || || |||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2071
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2191
                                                                                                                                                                                                                                                                                                                                                               ctaaacatgttacgggacaagaattgccaatgaaacctgtaccattaccagtggcagaag 1014
                                                                                                                                                                                                                                                                                                                                                                              atgaaaaagtaacacatgaagaagaagaaaagaagaagtaacacatgaagaaatagaaaaag 1711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        aatcaacggaagtgggaccaacggaagaaggaccaaccgaagaattagatgccactccag 1194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aggatggatttc--gcattagacgaaactgcagaaggagaaacagaagaagaaacgta-gagg 1251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ctcctgctcagcctgtcaaaccaatggtcgctccaacggcagatgaaactttattcgttg 1671
                                                                                                   - used in a recombinant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              agcccgcgcaagtaccagcggaagaattagatgccactccagaggatgacttcgcattag
                                                                                                                                                                                                                                                                                                                                                                                                                                                 1592 aagaatcagatgaaacagaacatataacatatgaaatagataatgacatacaagaagagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             atgttacagaatctcccgaggaagtagaattagtattagatgaagaggcaactgaagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aagaagcatgaagaagtaatacatgaagaagaaaaaaagaagtaacacatgaagaaatag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ccgaagaaactgcagaaggagaaaaccgtagagggagaaaaccgtagaggagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    taacacatgaagaaatagaaaaagaagagcatgaagaagtaatacatgaggaagaaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aaaccgtagaggaggaagaagctgcagaaggaagaagaagttagaggcaactccagagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          aagaagtaacacatgaagaaatagaaaaagaagaagcatgaagaagtaatacatgaagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aaggagaaggagaagcgttagtagcagtgccagtagtggccgaaccggtagaagtagtga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           aaaaagaagaagtaacacatgaagaaatagaaaaaagaagagcatgaagaagtaatacatg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            aagaagaaagaagtaacacatgaagaaagaaaaaagaagaagaagcatgaagaagtaa
                                                                                                                                                                                                                                                                                                     10.3%; Score 342.8; DB 17; Length 3399; llarity 51.8%; Pred. No. 2.2e-47; Conservative 0; Mismatches 807; Indels 7;
                                                                                                                                                                                                                                                                                                                                 807; Indels
                                                                                                                                                                                                                                                            Sequence 3399 BP; 1577 A; 508 C; 798 G; 516 T; 0 other;
               SEIZAI KYOKAI
                                                                                                                   against chicken leucocytozoan disease
                                                                                                  Chicken leucocytozoan immunogenic protein
            DOBUTSUYO SEIBUTSUGAKUTEKI
KITASATO KENKYUSHO SH.
                                                                                                                                            Claim 6; Page 6-9; 35pp; Japanese.
                                                     WPI; 1996-006311/01
                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                   standard practice.
                                                                     P-PSDB; AAR97866
                                                                                                                                                                                                                                                                                                                                 874;
                                                                                                                                                                                                                                                                                                    Query Match
Best Local S:
Matches 874;
          (DOBU-) F
                                                                                                                 vaccine
                                                                                                                                                                                                                                                                                                                                                                                         1532
                                                                                                                                                                                                                                                                                                                                                                                                                     1015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1492
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2192
                                                                                                                                                                                                                                                                                                                                                             955
g
                                                                                                                                                                                                                                                                                                                                                                                                                                               pp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           P Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
9
                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
```

```
tacaagtaccagtggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaac
                                                                                                                       aagaaggtaccagaagaagtggaagaagtggaagaagtagaagtagaagtaccagcgg
                                                                                                                                                                                                                                                                                                                                                                                                                       tagtagaagtagaagtaccagcggtagtagaagaagaagtgccagaagaagtagaagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                tcatcgacatgcactaccaagacgttccaaaggaattatggaagaagaagaaactg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cagtgtatccattgaaaccagaagatttgcaaaggaagattcacaatctacagaatggc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2252 aagaaagaagaagaaaagtaatacatgaagaagaaaaaagaagtaatacatgaagaag
                         aaatcctcaaggatcctgatgcaggagaggctgtaacagtaccatcaaaggaagcacctg
                                             aaaaagaagaagtaacacatgaagaagaaaaaagaagaagtaacacatgaagaagaagaaga
                                                                                                                                                                        2492 aagaagaaaaagaagaagtaacacatgaagaagaagaagaaagtaacacatgaagaag
                                                                                                                                                                                                                                         aaccaacaggaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggagaag
                                                                                                                                                                                                                                                            2612 aaaaagtaacacatgaagaagaagaagaaaaaagtaacacatgaagaagaagaaaagtaacac
                                                                                                                                                                                                                                                                                 aagtggaagaggtacctgcagaagtagaagtggaagaggtacctgcagaagtagaag
                                                                                                                                                                                                                                                                                                    2672 atgaagaagaagaaaaagtaatacatgaagaagaagaaaaaagaagaagaagaagaag
                                                                                                                                                                                                                                                                                                                                                                                      aagaagaagaagaaccagtagaggaagaagatgtattacaattagtaataccatcgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       aagaagatatacaattagacaaaccaaagaaagacgaattaggctctggaattttatcta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3092 aagaaaaagtaacacatgaagaagaagaagaaaaaaagtaat-gaagaagaagaagata
                                                                                        3218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     tcacattc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               || |||||
3211 tcqaattc
                                                                                     2372
                                                                                                                                                     1912
                                                                                                                                                                                                                                                                                2089
                                                                                                                                                                                                                                                                                                                                                                                                           2269
                                                                                                                                                                                                                                                                                                                                                                                                                                                     2329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2629
                                                                  1792
                                                                                                            1852
                                                                                                                                2432
                                                                                                                                                                                                                                                                                                                                                                   2209
                        1732
                                                                                                                                                                                                                                      2029
                                             2312
g
                        δ
                                          g
                                                                Qγ
                                                                                   qq
                                                                                                           οy
                                                                                                                           g
                                                                                                                                                 ογ
                                                                                                                                                                       g
                                                                                                                                                                                            ò
                                                                                                                                                                                                             g
                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                         δy
                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                 οy
                                                                                                                                                                                                                                                                                                                                                                                    QQ
                                                                                                                                                                                                                                                                                                                                                                                                         οy
                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
```

DNA; 1686

standard;

AAQ87587 S

AAQ87587 ID AAQ87 XX

σ

```
1685
                                    267
                                                                       627
                                                                                         1625
                                                                                                                                                                                                                                      1864
                                                                                                                                                                                                                                                        918
                                                                                                                                                                                                                                                                                                                                               2042
                                                                                                                                                                                                                                                                                                                                                                                   2102
                                                                                                                                                                                                                                                                                                                                                                                                    1158
                                                                                                                                                                                                                                                                                                                                                                                                                      2162
                                                                                                                                                                                                                                                                                                                                                                                                                                                          2219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2459
 507
                                                                                                                                               747
                                                                                                                                                                           qq
                                 g
                                                                  g
                                                                                        ò
                                                                                                     q
                                                                                                                                          g
                                                                                                                                                              ö
                                                                                                                                                                                             õ
                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                      οy
                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                        QQ
                                                                                                                                                                                                                                                                                                                                           οy
                                                                                                                                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                                                                                               Db
                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                        οý
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ద
                   δλ
                                                 ŏ
                                                                                                                        ŏ
                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                        οy
                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                     οŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                    Ø
                                                                                                                                                                                                                                                                                                                                                                                          aactccagaggatgatttcgcattagatggaactacattagaagaaaccgaagaaactgc 1384
                                                                                                                                                                                                                                                                                                                                                                                                           of
                                                                                                                                                                                                                         Immune inducing polypeptide against Leucocytozoan protozoa - useful in production of vaccines for treatment of leucocytozoanosis in fowl.
                                                                                                                                                                                                                                                                                AAQ87587-89 encode polypeptides having a whole or partial epitope of structural protein of Leucocytozoan protozoa (see AAR70491-93). The polypeptides and DNA encoding them are useful in the production of vaccines for the treatment of leucocytozoanosis of fowl.
                                                     structural protein; epitope; vaccine; fowl;
                                                                                                                                                                                                                                                                                                                                                                                                                            atctcccgaggaagtagaattagtattagatgaagaggcaactgaagaagaatcaacgga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   --gaagaagaagaagaagaagaagaagaagaagcaagat--gaagaagaagaagaagaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                               acaagaagaacaagaacaagaaatcgtagaagaacaagaacaagatgaagaagaacaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        agaagctgcagaaggagagtatcagaagaaactccagaaggagaagaagattagaggc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          agaaggaagaaaccgtagaaggagaaaaccgtagaggaagaaaccgtagaggg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                agaagaagaagaagaacaacaagaacaagatgaagaagaagaagaagatgaagaagaaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     tegeattagaegaaaetgeagaaggagaaacagaagaaacgtagaggagaagaaacaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             aaatgaagaacaaaatgaagatgaacaaaatgaagatgaagacaaaatgaagaaga
                                                                                                                                                                                                                                                                                                                                                                          21;
                                   DNA encoding Leucocytozoan protozoa structural protein epitope
                                                                                                                                                                                                                                                                                                                                                        Length 1686;
                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                            Sequence 1686 BP; 915 A; 129 C; 382 G; 260 T; 0 other
                                                                                                                                                                       (DOBU-) DOBUTSUYO SEIBUTSUGAKUTEKI SEIZAI KYOKAI.
(NISS-) NISSEIKEN KK.
                                                                                                                                                                                                                                                                                                                                                       Ouery Match
8.0%; Score 268; DB 16;
Best Local Similarity 51.1%; Pred. No. 3.7e-35;
Matches 790; Conservative 0; Mismatches 735;
                                                                                                                                                                                                                                                               Claim 1; Page 12-14; 20pp; Japanese.
                                                               leucocytozoanosis; treatment; ss
                                                                                                                                     93JP-0226078
                                                                                                                                                      93JP-0226078
                 (first entry)
                                                                                Leucocytozoan protozoa sp.
                                                     protozoa;
                                                                                                                                                                                                  WPI; 1995-167252/22.
P-PSDB; AAR70491.
                                                     Leucocytozoan
                                                                                                  JP07089995-A
                                                                                                                                                      10-SEP-1993;
                                                                                                                                    10-SEP-1993;
                 19-DEC-1995
                                                                                                                   04-APR-1995
AAQ87587
                                                                                                                                                                                                                                                                                                                                                                                          1025
                                                                                                                                                                                                                                                                                                                                                                                                                             1085
                                                                                                                                                                                                                                                                                                                                                                                                                                              153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                447
용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                           ន
                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                               õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  용
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
```

```
2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1577
                                                                                                                                                            1624
                                                                                                                                                                                                                                                                                                                                                                                         cgatttaacgtatgcagacattacatcctttgagccattatttaaacaaatcctcaagga 1744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1745 tcctgatgcaggagaggctgtaacagtaccatcaaaggaagcacctgtacaagtaccagt 1804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1805 ggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaa-ctccaagaggacg 1863
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1038 tgaagatgaaaataaaaattcatcattgaaaaaccagaattaaatgaagctactagagg 1097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      coggaattocoggaccagtagttgaagaagttgttgaagaaacaccagtagttgaagaaga 1157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                agaagaaatgatagaagaaacaccagtagtggaagaagatgtcgtcgaagaaacaccaat 1277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  accagaagaagtagaagaggtacccgca---gaagtagaagaagtggaagaggtaccaga
agatgaagaagaagaagaagaagaacaggaagaacaagatgaagaacaagaagaagtata
                                                    agogttagtagcagtgccagtagtggccgaaccggtagaagtagtgactcctgctcagcc
                                                                                                                                                                                                                   aaaaatatatgttgaaaaaagaaaaagatgaagaagtatatgtagaaaaagaacaagaaca
                                                                                                                                                                                                                                                                             tgtcaaaccaatggtcgctccaacggcagatgaaactttattcgttgatatcttagataa
                                                                                                                                                                                                                                                                                                                                 ttttaaagaattagaaaagaagttttagaagaaaagtagaaagtgaacataaagatga
                                                                                                                                                                                                                                                                                                                                                                                                                                                ------taagaaagagacaaaaataaaaagcatgaagttgaagaagaacgagaaat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           agaaataaaaggagaatcagaagaaatagatgagaaaaaaatcagaagtaaaagaacaaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  atcaatattaagatatatgataaataaaagaacagaaacagaaaaaactaatcagcaaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                agaagaagaattagaaggcaactccagaggacgatttcgaattagaagaaccaacaggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     agaagtagaagaaaccgtagagggcgaagaactgcagaaggaggaagtggaagat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                acctgcagaagtagaagaagtggaagaggtacctgcagaagtagaagtggaagaggt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     aatggtagaagaaacacctgtagttgaagaagaaatgatagaagaagaacacctgtagttga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          agaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtacc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       accagtagttgaagaagattgtagaagaagaaacaccagtagtggaagaaatggtaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tgttgaagaaacaccagtatttgaagaagaagttgtagaagaaacatcagtagttgaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gcactaccaagacgttccaaaggaatttatggaagaagaagaagaa 2564
```

catgttacgggacaagaattgccaatgaaacctgtaccattaccagtggcagaagagccc 1019

772 aacactatggaaaaaaa----caaaaagaacagagataagaaacattctaaaaaaaggaa

tttgatcatattaaaagatttcgagccactattcgaacaaattgtggcgggtactgctaaa

840 gtacaacctgccgatagtaatgatgccctctttggaagtattttggataaagatataatt

652 gaacatgatattgatgaaacagattattatataggaagtatattaggatatagtgatttt

g

g

ò

g ò g ò g ò g ò g à g

ò

.020 gcgcaagtaccagcggaagaattagatgccactccagaggatgacttcgcat-tagatgt 1078

aacaaaacaaaattataaatataagaaggaaaaccaaaatatagaaaatcatatacctca

1139 aacggaagtgggaccaacggaagaagaaccaaccgaagaattagatgccactccagagga 1198

1079 tacagaatctcccgaggaagtagaattagtattagatgaaggggaactgaagaagaatc  ccacaaaaatattaaagaaagaaaaggggggaatagaaaaaactgatactactaatagc

1008 agatataaaaataa----aaaaaagaagaagaaagagaaacaaaaga----tgaaaaaagaaaa 1058

aacagaagaagctgcagaaggagaagtatcagaagaaactccagaaggagaagaagtt 1059 aaacattcaacagctagtaaaagatgtacaattaataaaagttggagaagaacgaaaga

```
by chromosome 2 of the human malarial parasite, Plasmodium falciparum.
Also described are: (1) nucleotide sequences (II) encoding (I); and (2) vaccines against P. falciparum infection comprising (I) or (II).

(I) and (II) are useful for the development of vaccines against attitude and properties of the development of vaccines against P. falciparum infection. (I) and polyclonal antisera or a monoclonal antibody raised to immunogens comprising the sequences of (I), are useful in the detection of infection with P. falciparum. Furthermore, (I) (especially when they are rifins or secreted or membrane proteins) can aid the identification of farugs to treat or prevent P. falciparum infection, or they can be used to identify drug resistance in falciparum. Sequencing of the Plasmodium chromosome 2 and the subsequent identification of proteins encoded by it will help to expand our understanding of parasite biology, a process hampered by the complexity of the parasitic lifecycle, and provide new targets for vaccine and drug development. Parasite resistance to drugs and mosquito resistance to insecticides have led to a resurgence of malaria in many parts of the world, and there is a pressing need for vaccines and new drugs. AAA70078 to AAA70287 and AAB18144 to AAB18352 represent nucleotide and protein sequences given in the present invention, but which are not
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 present invention describes proteins and their fragments (I) encoded
                                                                                                                                                           Plasmodium falciparum chromosome 2 related DNA sequence SEQ ID NO:232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Proteins encoded by chromosome 2 of the human malarial parasite, Plasmodium falciparum, useful as antimalarial vaccines and in the diagnosis of P.falciparum infection
                                                                                                                                                                                                   chromosome 2; human malaria parasite; protozoacide; infection; insecticide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 3579 BP; 1904 A; 398 C; 552 G; 725 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                specifically mentioned within the specification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Venter JC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Disclosure; Page 457-458; 577pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gardner M,
                                        BP
                                      AAA70099 standard; DNA; 3579
                                                                                                                                                                                                                                                                                                                                                                                                                             98US-0107131
                                                                                                                                                                                                      Plasmodium falciparum;
                                                                                                                                                                                                                           antimalarial; malaria;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hoffman S, Carucci D,
                                                                                                                                                                                                                                                               Plasmodium falciparum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (HOFF/) HOFFMAN S.
(CARU/) CARUCCI D.
(GARD/) GARDNER M.
(VENT/) VENTER J C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PI; 2000-365347/31
                                                                                                                                                                                                                                                                                                     WO200025728-A2
                                                                                                                                                                                                                                                                                                                                                                                    05-NOV-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                             05-NOV-1998;
                                                                                                                     07-NOV-2000
                                                                                                                                                                                                                                                                                                                                              11-MAY-2000
                                                                              AAA70099;
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 rhe
                     AAA70099
RESULT
```

```
1178
                                                                                                                                                    1439 agagggagaagaagctgcagaaggagaaagaagaagttagaggcaactccagaggatgactt 1498
                                                                                                                                                                                                                                                                                                       1559 aggagaagcgttagtagcagtgccagtagtggccgaaccggtagaagtagtgactcctgc 1618
                                                                                                                                                                                                                                                                                                                                                                                    tcagcctgtcaaaccaatggtcgctccaacggcagatgaaactttattcgttgatatctt 1678
                                                                                                                                                                                                                                                                                                                                                                                                            1179 tacagatgatgaagaagatacagatgatgaagaagatacaagtgatgaagaagctacagg 1238
                                  1119 cgacgaaaaagaagacaaagaaggaacagatgatgaagaagatacagatgatgaagaaga
                                                                                                                                                                          agaattagaagaagacaaagaagaatcagaa---aaagacaaagaagaatcagaaaaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1590 cgaagagggaacagattatgaagaagatacagattcaga--------caaaga
                                                                            aactgcagaaggagaagaaaccgtagagggagaaaaccgtagagggagaaaaccgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                1679 agataacgatttaacgtatgcagacattacatcctttgagccattatttaaacaaatcct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1470 agatgtagatgaaaaaaaaaagaaaagggagaatatggaggggaacagatgatgaagaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tgaagaaacaaaagtagaagaaaagaaaacagaaagaagacgaagaagaaactgaagaaga
                                                                                                                                                                                                                                                                                                                                               1356 taaaagaagaatcagaaaaagataaagaagaatcagaaaaaagacaaagaaaaaactgaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             caaggatcctgatgcaggagaggctgtaacagtaccatcaaaggaagcacctgtacaagt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         accagtggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaactccaaga
agaggcaactccagaggatgatttcgcattagatggaactacattagaagaaaccgaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1739
ŏ
                              g
                                                                        δ
                                                                                                            g
                                                                                                                                                  ò
                                                                                                                                                                                     g
                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                    ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                        pp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
```

7;

35;

Length 3579;

Score 228; DB 21; Length 35 Pred. No. 1.5e-28; 0; Mismatches 810; Indels

6.8%;

819; Conservative

Similarity

Query Match Best Local S: Matches 819,

780

ò 셤

gacacagaagatagttcagctgatggagcagaaaaagtacatgttcctgctcaagaaaat 839 

```
ggtaccagaagaagtagaagaggtacccgcagaagtagaagtggaaggaggtaccaga 2218
                                                                                                                                                                                               agaagtggaagagtaccagaagaagtggaagaggtaccagaagaagtggaagaggtacc 2278
                                                                                                                                                                                                                                                                              agaagaagtggaagaagtggaagaagtagaagtagaagtagaggtaccagcggtagtagaagt 2338
           1698 cgaaaaagaaacagaagtagaaaaaaaagaaacagaaaaagaagagaacagatta 1757
                                                           tgaagaagatacagatgattcagacaaagatgtagaaacagaagtagaagaaacagacgc 1817
                                                                                                                                                         agacctagaccgaccaagaagaagacggagaagaagataaagacgaccaaagaaaaaga 1937
                                                                                                                                                                                                                                                     caaagaagatgacaaagaagatgacaaagaagatgacaaagaaaaaagacaaagaagataa 2057
                                                                                                                                                                                                                                                                                                    2058 caaagaaaaagacaaagaagataacaaagaaaaagacaaagaagaagaagacaaagaaaaaga 2117
                                                                                                                                                                                                                                                                                                                                                   2118 caaagaagatgacaaagaaaaagacaaagaagaataacaaagaaaaagacaaagaagataa 2177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Dog; X-linked progressive retinal atrophy; XLPRA; genetic marker; retinitis pigmentosa GTPase regulator; RPGR; Siberian Husky; Samoyed; Miniature Schnauzer; ss.
                                                                                  agaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggaggaagaagtggaaga
                                                                                                                                 2099 ggtacctgcagaagtagaagtagaagtggaagatacctgcagaagtagaagtggaaga
                                                                                                                                                                                                                                                                                                                            agaagtaccagcggtagtagtagaagaagaggtgccagaagaagaagaagaagaagaaga
                                    gocagaagaagaattagaaggcaactccagaggacgatttcgaattagaagaaccaagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Canine retinitis pigmentosa GTPase regulator (RPGR) cDNA
                                                                                                                                                                                                                                                                                                                                                                             ggaagaaccagtagaagaagaagatgtattacaattagtaatac 2442
                                                                                                                                                                                                                                                                                                                                                                                                    caaagaaaaagacaaagaagatgacaaagaaaaacatgataaac 2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             S;
χ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ray
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
1..1569
/*tag= a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ВР
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2hang
                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAD07130 standard; cDNA; 2805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (CORR ) CORNELL RES FOUND INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21-NOV-2000; 2000WO-US31940.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99US-0167365.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /*tag= a
/product=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /partial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Aguirre GD, Acland GM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note-
______
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2001-367707/38.
P-PSDB; AAE02397.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           familiaris.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO200138578-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24-NOV-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            06-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            31-MAY-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAD07130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Canis
                                                                                                                                                                                                                                                     1998
                                                                                                         1818
                                                                                                                                                                               2159
                                                                                                                                                                                                      1938
                                                                                                                                                                                                                             2219
                                                                                                                                                                                                                                                                                                                                                                            2399
                                                                                                                                                                                                                                                                                                                                                                                                   2178
                                                                                2039
                                                                                                                                                       1878
                                                                                                                                                                                                                                                                                                                            2339
                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                              g
                                õ
                                                      g
                                                                             ò
                                                                                                  qq
                                                                                                                      õ
                                                                                                                                              q
                                                                                                                                                                       ò
                                                                                                                                                                                                                     S S
                                                                                                                                                                                                                                                                       S S
                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                              g
```

```
The invention relates to a method for identifying dogs which are genetically normal, are carriers of, or are affected with X-linked progressive rethinal atrophy (XLDRA), by testing a biological sample with genetic markers that co-segregate with a XLDRA gene locus. The invention also relates to canine rethinits pigmentosa GTPase regulator (RPGR), RPGR mutants and their corresponding nucleic acid molecules. The mutated RPGR genes are responsible for the XLPRA in dogs. Methods are used to select dogs for breeding so that dogs carrying the mutated locus are eliminated from the breeding stock. The method particularly applies to Siberian Husky, Samoyed and Miniature Schnauzer breeds, or any other breed where the disease is X-linked. XLPRAl type is identified in Miniature Schnauzers. The present cDNA sequence is the normal open reading frame (ORF) is encoding Canine retinitis pigmentosa GTPase regulator (RPGR) protein found in normal dogs.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
           Identifying dogs with or carrying X-linked progressive retinal atrophy by detecting retinitis pigmentosa GTPase regulator gene mutation, useful when breeding Husky, Samoyed and Miniature Schnauzer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gaaggagaaacagaaggaaacgtagagggagaaacagaagaagaagctgcagaaggagag 1284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1405 agggaagaaaccgtagagggagaaaccgtagaggagaagccgtagagagaagaagaagctgcagaaggag 1464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tagtggccgaaccggtagaagtagtgactcctgctcagcctgtcaaaccaatggtcgctc 1644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 caacggcagatgaaactttattcgttgatatcttagataacgatttaacgtatgcagaca 1704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            taacagtaccatcaaaggaagcacctgtacaagtaccagtggcagtagggcccgcgcaag 1824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  aagtgccaacggaagaattgatgcaactccaagaagacgatttcgaattagaaggaactg 1884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           aaggaagagaaggaaaggaaaggaaaggggaagtggaaggaaggaagggaagtggaag 742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gagagaaaaaacctagaagaggaggaggcccaggaacaaagggagagggaacaaggccatc 202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ttacatcctttgagccattatttaaacaaatcctcaaggatcctgatgcaggagggtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   aagaagagttagaggcaactccagaggatgacttccaattagaagaagcatcaggagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            503 cagagaaagagaaggaagcagaagtagaggaggaaggaggaggagggaattggaagagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gggaagaaagaaacaaaggaacagaaggaggaaggggaagagcaaaagagatgaggaagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cattagatggaactacattagaagaaaccgaagaaactgcagaagaagaagaaaccgtag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 2805;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 2805 BP; 1029 A; 287 C; 940 G; 549 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 220.2; DB 22;
Pred. No. 2.8e-27;
0; Mismatches 668;
                                                                                   English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           6.68;
                                                                                 Page 30-31; 88pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          al Similarity 48.2
621; Conservative
                                                                                   Claim 71;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        623
셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
```

```
1042
                                                                                                                                                                                        2184
                                                                                                                                                                                                                                      2244
                                                                                                                                                                                                                                                                                                           1222
                                                                                                                                                                                                                                                                                                                                  2364
                                                                                                                                                                                                                                                                                                                                                                               2424
                                                                                                                                          2124
                                                                                                                                                                                                                                                                                                                                                                                                      1342
                                                                                                                                                                                                                                                                                                                                                                                                                                         Bacillus anthracis; MLVA primer; VNTR; DNA finger printing; anthrax; multilocus variable number tandem repeat analysis primer; ds.
                                                                                                                                                        2185 ccgcagaagtagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaagaag
                                                                                                                                                                                                                                                                                                                                                                                                                           cagaagctccagaggaaggagaattagtattagaaggagaaggagaaccaacggaagaag
                        gagaagcagaagaagaatgcagaagaagaagaaggaagggaagtggaagaaggagagg
                                              agccaagagaaggagagccaacagaaggagaaggagccagaaggaattagaggcaactc
                                                                     cagaggacgatttcgaattagaagaaccaacaggagaagaagtagaagaaaccgtagagg
                                                                                                                    gcgaagaaactgcagaaggagaagaagtggaagaggtacctgcagaagtagaagtgg
                                                                                                                                                                                        aagaggtacctgcagaagtagaagtggaagaggtaccagaagaagtagaagaagtac
                                                                                                                                                                                                               aagaggaaggaagagagggaggaaggaaggaaggaaggaagggaaggtgaagagg
                                                                                                                                                                                                                                                                                 2245 tggaagaggtaccagaagaagtggaagagtaccagaagaagtggaagaagtggaagaag
                                                                                                                                                                                                                                                                                                           tagaagaagtagaggtaccagcggtagtagaagtagaagtaccagcggtagtagaagaag
                                                                                                                                                                                                                                                                                                                                                       1223 aggaagaggagagaagcagagtggggagtgagggagagggaagagaaggacactgaag
                                                                                                                                                                                                                                                                                                                                                                               aggtgccagaagaagtagaagaagaagaagaagaagaagaagccagtagaggaagaaga
                                                                                                                                                                                                                                                                                                                                                                                                      aagaggggaaatatgaggagacaggagatgaagagagagtgaaaaaacaggggaagacggggtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           acillus anthracis variable region DNA sequence SEQ ID NO 79.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              aggcataccccaaaagtttattactaac 1431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2485 aattaggctctggaattttatctatcatc 2513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABA90848 standard; DNA; 2019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26-APR-2001; 2001WO-US13373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26-APR-2000; 2000US-199911P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (REGC ) UNIV CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Jackson PJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bacillus anthracis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO200181543-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABA90848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Keim PS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  œ
                                                                                                                                        2065
                                                                                                                                                                                                                                                                                                                                 2305
                                                                                                                                                                                                                                                                                                                                                                             2365
                                                                                                                                                                                                                                                                                                                                                                                                    1283
1885
                       803
                                                                    863
                                                                                           2002
                                                                                                                                                                                                              1043
                                                                                                                                                                                                                                                            1103
                                                                                                                                                                                                                                                                                                         1163
                                                                                                                                                                                                                                                                                                                                                                                                                           2425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABA90848
                     g
                                                                                                                                                         g
                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                               Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ŏ
                                                               οg
                                                                                          ò
                                                                                                                a
                                                                                                                                     οy
                                                                                                                                                                                    οy
                                                                                                                                                                                                                             οŻ
                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                           οy
                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
```

```
The invention relates to an isolated nucleic acid molecule (ABA90786-ABA90790 and ABA90848-ABA90875) and a MLVA primer (multilocus VNTR (varitable number tandem repeat) analysis primer, ABA90770-ABA90785 and ABA90791-ABA90847) specific for Bacillus anthracis templates used in DNA finger printing of B. anthracis, useful for identifying strains of anthracis and related bacteria.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  atctcccgaggaagtagaattagtattagatgaagaggcaactgaagaagaatcaacgga 1144
                                                                                                                                                                                                                                                                                                                                                                                                                                                          99 agaagaaaaagaagtggttcaagaaatgagtgcaccgcaggaagttccagcggctgaatt 158
                                                                                                                                                                                                                                                                                                                                                                                                                     785 agaagatagttcagctgatggagcagaaaaagtacatgttcctgctcaagaaaatgtaca 844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1385 agaaggagaagaaaccgtagagggagaagaaaccgtagagggagaagaaaccgtagaggg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               acctgccgatagtaatgccctctttggaagtattttggataaagatatattttga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tcatattaaaagatttcgagccactattcgaacaaattgtggcgggtactgctaaacatgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             219 caaaaaacattctacaagaaggaattagtagattctaaagtagagcacgaggatacaatatt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           agtaccagcggaagaattagatgccactccagaggatgacttcgcattagatgttacaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              agcaccagaagaatcagtgattgtcaaagcagaagaaaaacttgaagaaacaattgttgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            agaagaagctgcagaaggagaagaagagttagaggcaactccagaggatgacttccaatt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tacgggacaagaattgccaatgaaacctgtaccattaccagtggcagaagagcccgcgca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    279 atcagaagaaattaaacgtagtacagaaatagaacaacctactattgaagtagaaaaaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      519 -agaagtagaagtaattgcagaaacaga-------agaagtcagaagaagtaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              agtaattgcggaaacagaagagtcagaagaa---gtagaagtaattgcagaaacagaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1325 aactccagaggatgatttcgcattagatggaactacattagaagaaaccgaagaaactgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         621 gtcagaagaagtagaagtaattgcagaaacagaagagttagaagtggaagtaactgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               681 agaaacagaagtaattagaagtagaagtggaagtagttgcagaaacagaagagttagaagaagt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 agaaataccagaagaagtggaagtaattgcagaaacagaagagtcagaagaagtagaagt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   tcgcattagacgaaactgcagaaggagaaacagaagaaacgtagaggagaagaacaga
                                     multilocus variable nur
for Bacillus anthracis
                                                                                                                                                                                                                                                                                                                                                                                  26;
                                                                                                                                                                                                                                                                                                                                             Length 2019;
                                 Novel nucleic acid molecules, primers for multilocus varia
tandem repeat analysis which are specific for Bacillus ant
templates, useful for DNA finger printing of B. anthracis
                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                      Sequence 2019 BP; 884 A; 279 C; 524 G; 328 T; 4 other;
                                                                                                                                                                                                                                                                                                                                           6.6%; Score 219; DB 24;
48.1%; Pred. No. 4.1e-27;
tive 0; Mismatches 852;
                                                                                                               Claim 47; Page 33-34; 71pp; English
                                                                                                                                                                                                                                                                                                                                                                                Conservative
WPI; 2002-055350/07
                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 815; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1025
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1085
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                845
 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               άy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
```

```
/note= "Mutational hot spot"
                                                                                                                              /number= 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1297..1298
                                                                                                                     /*tag= a
                                                                                                                                                     /*tag= b
                                                                                                                                                                                                                                                                                                        ..653
                                                                                                                                                                                                                                                                        647..648
                                                                                                                                                                                                        183..484
                                                                                                                                                                                                                                                                                                                                                                          689..692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /*tag=
                                                                                                                                                                                                                    *tag=
                                                                          Homo sapiens
                                                                                                                                                                          misc_feature
                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           nisc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nisc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           nisc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             nisc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                               Key
                                                                                                                                          CDS
1157 tgtagaagaaacaccgattgtagaagaagcaccggtcgtagaaggacaatcagttgtaga 1216
                                                                                                                                                                                                                                                                                            1217 agaagcaccgattgcagaagaacaaccagttgcagaggaaacatcggtcgtagaagaaca 1276
                                                                                                                                                                                                                                                                                                                                      1277 accagttgcagaggaaacatcgatcgtagaagaacaaccagttgcagaggaagcaccagt 1336
                                                                                                                                                                                                                                                                                                                                                                                                                          accatttaatgttgttatgttgaaacaagatagagcgcgattaatggaaangacatgcgt 1456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1636 gcaacaagtagtagtagaaccacaagtggaagaaaaaccaatgcaacaagtagtagtgga 1695
                                                                                                                                                                                                 1097 accgattgtagaagaacaaccagctgcagaagaagaagcaccggtcgtagaagaacaatcagt 1156
                                                                                                                                                                                                                           1337 cgtagaagaacaaccagttgtacaaaaagaagaaccaaaacgtgagaaaaagcgtcacgt 1396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2222 agtggaagaggtaccagaagaagtggaagaggtaccagaagagtggaagtggaagaggtaccaga 2281
                                                                                                                   981 tgcggatgttttaattgcggaggaacaatcagttgtagaaga----acaccgattgtaga 1036
                                                                                                                                                            1037 agaacaaccagttgcagaagaagcaccggtcgtagaagaacaatcagttgtagaagaaac 1096
                                                                                                                                                                                                                                                                                                                                                              agaagtagaagaaaccgtagaggggggaagaactgcagaaggagaagaagtggaagaggt 2101
                                                                                                                                                                                                                                                                                                                                                                                                        2102 acctgcagaagtagaagtagaagtggaagagtacctgcagaagtagaagaagtggaagagt 2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                    2162 accagaagaagtagaagaggtacccgcagaagtagaagaagtggaagaggtaccagaaga 2221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         agaagtggaagaagtggaagaagtagaagtagaagtagaggtaccagcggtagtagaagtaga 2341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1696 gccacaagtggaagaaaaaaccaatgcagcaagtagtggtagaaccgcaagtggaagaaa 1755
          agcgttagtagcagtgccagtagtggccgaaccgg---tagaagtagtgactcctgctca 1621
                                                                                                                                          ggatcctgatgcaggagaggctgtaacagtaccatcaaaggaagcacctgtacaagtacc 1801
                                                                                                                                                                                  agtggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaactccaagagga 1861
                                                   gcctgtcaaaccaatggtcgctccaacggcagatgaaactttattcgttgatatcttaga 1681
                                                                       gaatgaattcatacatgttgctgtggctgatgaacaaacgaaaaaaagatgttcaaagctt 980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               agaaccagtagaggaagaagatgtattacaattagtaataccatcggaagaagatataca
                                                                                                                                                                                                                                                                                                                    agaagaagaattagaggcaactccagaggacgatttcgaattagaagaaccaacaggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1457 ctagaacgaatggaatgcaatcttcntatgagt-gaaagagtagagaataagcctgtaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   agtaccagcggtagtagaagaagaggtgccagaagaagtagaagaagaagaagaagaagaaga
                            861 acctgtagcacttgaggaaatgcaacaagaaatggtgttaaatgaagcaattgaacaaa
                                                                                             taacgatttaacgtatgcagacattacatcctttgagccattatttaaacaaatcctcaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAD21684 standard; DNA; 2849 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   28-JAN-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           attagacaaacca 2474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1756 accaatgcaacaa 1768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAD21684;
         1565
                                                                                             1682
                                                                                                                                       1742
                                                                                                                                                                                  1802
                                                                                                                                                                                                                            1862
                                                                                                                                                                                                                                                                                                                                                             2042
                                                                                                                                                                                                                                                                                                                                                                                                                              1397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2462
                                                                       921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
AAD21684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SX S X E
                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                             6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                 Q
                                                                                          ò
                                                                                                                                                       g
                                                                                                                                                                                 à
                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                         á
                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                      q
                                                                                                                                                                                                                                                                                                                                                                                                                                               õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          õ
                                                                                                              g
                                                                                                                                õ
                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

```
pigmentosa;
Juman retinitis pigmentosa GTPase regulator (RPGR) exon ORF15 DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /*tag= q
/note= "Benign or polymorphic sequence variant"
1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /*tag= s
/note= "Benign or polymorphic sequence variant"
1239..1243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note= "Benign or polymorphic sequence variant"
769
                                 Human; mutation; retinitis pigmentosa GTPase regulator;
genotyping; open reading frame; ORF; X-linked retinitis
XLRP; gene therapy; screening; forensic analysis; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /*tag= n
/note= "Mutational hot spot"
977..978
                                                                                                                                                                                                                                                                                                                                                                     /note= "Mutational hot spot"
                                                                                                                                                                                                                                                                                                                                                                                                               /*tag= e
/note= "Mutational hot spot"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /*tag= f
/note= "Mutational hot spot"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /*tag= g
/note= "Mutational hot spot"
673..674
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /*tag= h
/note= "Mutational hot spot"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /*tag= i
/note= "Mutational hot spot"
694..708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /*tag= k
/note= "Mutational hot spot"
804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /*tag= 1
/note= "Mutational hot spot"
872
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /*tag= m
/note= "Mutational hot spot"
897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /*tag= o
/note= "Mutational hot spot"
1010..1011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /*tag= p
/note= "Mutational hot spot"
1067..1087
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /*tag= r
/note= "Mutational hot spot"
1166..1186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /*tag= t
/note= "Mutational hot spot"
                                                                                                                                                                                                                                                             /product= "Human RPGR ORF15"
391..463
                                                                                                                                                                                                                                                                                                    /*tag= c
/note= "Mutational hot spot"
                                                                                                                                                Location/Qualifiers
```

Mon Jun 17

```
predisposition to a disease, associated with a disease causing mutations in a retinitis pigmentosa GTPRase requiator (RPGR) gene involves genotyping a RPGR gene, and determining whether the genotype comprises a disease causing mutations, where the risk genotype is present within open reading frame (ORF)15 of the RPGR gene. The method is useful for detecting a certain disease state e.g., X-linked retinitis pigmentosa (XLRP). The kit is useful for detecting and mutation in tissues. The mutant RPGR gene is useful for localising mutation in tissues. The mutant RPGR gene is useful in gene therapy techniques and for screening agents capable of affecting the expression of the sequences and/or the biological cativity of mutant RPGR. They are preferably useful for identifying agonists and antagonists of RPGR. The mutant RPGR gene is also useful in identification of potential pharmaceutical targets in high
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Diagnosing disease or predisposition to disease, associated with disease causing mutations in retinitis pigmentosa GTPase regulator gene by genotyping ORF15 of the gene, and determining presence of mutations
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The present invention relates to a method for diagnosing disease or
                                                                      /*tag= w
//orte= "Benign or polymorphic sequence variant"
//orte= "Benign or polymorphic sequence variant"
                                     polymorphic sequence variant"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 2849 BP; 1082 A; 264 C; 988 G; 515 T; 0 other;
                                                                                                                          /*tag= x
/note= "Mutational hot spot"
2218..2823
/*tag= y
                    '*tag= v
'note= "Benign or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; Fig 2; 100pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             human exon ORFIS of RPGR DNA.
                                                                                                                                                                                                                                                                                                                       10-APR-2000; 2000GB-0008801
                                                                                                                                                                                                                                                                                                                                                            (MEDI-) MEDICAL RES COUNCIL
                                                                                                                                                                                                                                                                                      10-APR-2001; 2001WO-GB01622
 1307..1318
                                                   1321..1332
                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2001-663057/76
                                                                                                                                                                                                                                                                                                                                                                                                                                                  P-PSDB; AAE13147.
                                                                                                                                                                                                                 WO200177380-A2
misc_feature
                                                     misc_feature
                                                                                                       misc_feature
                                                                                                                                                               olyA_signal
                                                                                                                                                                                                                                                    18-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                              Wright A;
```

4; 1112 agatgaagaggcaactgaagaagaatcaacggaagtgggaccaacggaaggaccaac 1171 1172 cgaagaattagatgccactccagaggatggatttcgcattagacgaaactgcagaaggag 1231 aaacagaaggaaacgtagaggagaagaagaacagaagaagctgcagaaggagaagtatcaga 1291 gggagaagcagaggatgggcctgaaggtagaggggatggaacctgtgaggaaggtagttc Length 2849; 6.5%; Score 217.4; DB 22; 49.9%; Pred. No. 8e-27; tive 0; Mismatches 651; 660; Conservative Similarity Query Match Best Local S Matches 660 29 119 179 1292 g ŏ g g ò ò

```
1946 gccaagagaaggaggccaacagaa-----ggagaagtgccagaagaagaattagaggc 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1649 ggcagatgaaactttattcgttgatatcttagataacgatttaacgtatgcagacattac
239 aggagcagaacactggcaagatgaggagagagagaggagaaggagaaaagacaagggtagagg
                               tggaactacattagaagaaaccgaagaaactgcagaag--gagaagaaaccgtagaggga
                                                          299 agaaatggaagaccaggagagagagagagaagctagcagagaaaggaagtagaagaa
                                                                                                                      ccaagagatggaggagggagggaggaggagcatggagaaggagaagaagaagaggaggaga
                                                                                                                                                                                                                1589 ggccgaaccggtagaagtagtgactcctgctcagcctgtcaaaccaatggtcgctccaac
                                                                                                                                                                                                                                                                                                                                                                                               1709 atcetttgagecattatttaaacaaateetcaaggateetgatgeaggagaggetgtaae
                                                                                                                                                                                                                                                                                                                                                                                                                           1826 agtgccaacggaagaattgatgcaactccaagaggacgatttcgaattagaaggaactgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gaagaaaccgtagaggagaaagaaaccgtagaggagaagaagctgcagaaggagaagaa
                                                                                                                                                      gagttaga-ggcaactccagaggatgacttccaattagaagaaccatcaggagaaggaga
                                                                                                                                                                                                                                          479 сададаададдаадаадааддааддаддадаадддаааддааддааддаадд
                                                                                                                                                                                                                                                                                                        539 ддадддадаасд1дааааддаддаддаддаддаддаддааааддаддааддаадда
                                                                                                                                                                                                                                                                                                                                                                                                                                                           agtaccatcaaaggaagcacctgt---acaagtaccagtggcagtagggcccgcgaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1886 agaagctccagaggaaggagtaattagtattagaaggagaaggagaaccaacggaagaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2000 aactccagaggacgatttcgaattagaagaaccaacaggagaagaagtagaagaaaccgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2120 agiggaagaggtaccigcagaagiaggaagiggaagaggiaccagaagaagiagaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2240 agaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagtgga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2300 agaagtagaagtagaggtaccagcggtagtagaagtagaagtaccagcggtagtaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                agagggcgaagaaactgcagaaggagaaagtggaaagagtacctgcagaagtagaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               =
=
=
=
                              1352
                                                                                                                                                                                 419
                                                                                                                                                                                                                                                                                                                                                                                                                                                         1769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2060
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2360
                                                                                        1410
                            δý
                                                          셤
                                                                                        ò
                                                                                                                   g
                                                                                                                                                    ð
                                                                                                                                                                               셤
                                                                                                                                                                                                               ŏ
                                                                                                                                                                                                                                        임
                                                                                                                                                                                                                                                                         Qγ
                                                                                                                                                                                                                                                                                                      염
                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                               ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                         δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             òγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ογ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
```

ò g

```
agaagaagotgoagaaggagaagaagagttagaggoaactooagaggatgacttooaatt 1504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           catttaatgttgttatgttgaaacaagatagagcgcgattaatggaaagacatgcgtcta 1457
                                                                                                                  681 agaaacagaagaattagaagaagtggaagtagttgcagaaacagaagagttagaagaagt 740
                                                                                                                                                                                                                                                                                                                                                                                                                                         agaaggagaagaaaccgtagagggagaagaaaccgtagagggagaagaaaccgtagaggg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     agcgttagtagcagtgccagt-agtggccgaaccggtagaagtagtgactcctgctcagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   tagaagaacaaccagttgtacaaaaagaagaaccaaaacgtgagaaaaagcgtcacgtac
339 agcaccagaagaatcagtgattgtcaaagcagaagaaaaacttgaagaaacaattgttgt
                                       atctcccgaggaagtagaattagtattagatgaagaaggcaactgaagaagtcaacgga
                                                                             agaaataccagaagaagtggaagtaattgcagaaacagaagagtcagaagaagtagaagt
                                                                                                                                                        aattgcagaaacagaagagtcagaagaagtagaagtaattgcagaaacagaagagtcaga
                                                                                                                                                                                                 tcgcattagacgaaactgcagaaggagaaacagaagaaacgtagaggagaagaaacaga
                                                                                                                                                                                                                        agtaattgcggaaacagaagagtcagaagaa---gtagaagtaattgcagaaacagaaga
                                                                                                                                                                                                                                                                                                                                                          aactccaqaagatgatttcgcattagatggaactacattagaagaaaccgaagaaactgc
                                                                                                                                                                                                                                                                                                                                                                                               gtcagaagaagtagaagtaattgcagaaacagaagagttagaagaggaagtaactgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             aacagaagaagtcagaagtagaagtagtaattgcagaaacagaagcaccagaagagtgga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          861 acctgtagcacttgaggaaatgacaagaaatggtgttaaatgaagcaattgaacaaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ctgtcaaaccaatggtcgctccaacggcagatgaaactttattcgttgatatcttagata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         atgaattcatacatgttgctgtggctgatgaacaaacgaaaaaaagatgttcaaaagctttg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1684 acgatttaacgtatgcagacattacatcctttgagccattatttaaacaaatcctcaagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cggatgttttaattgcggaggaacaatcagttgtagaagaa---acaccgattgtagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              atcctgatgcaggagaggctgtaacagtaccatcaaaggaagcacctgtacaagtaccag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaactccaagaggacg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cgattgtagaagaacaaccagctgcagaagaagcaccggtcgtagaagaacaatcagttg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tagaagaaacaccgattgtagaagaagcaccggtcgtagaaggacaatcagttgtagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            aaggagaaccaacggaagaagagccaagagaaggagagagagagagagagagtgccag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         aagaagaattagaagcaactccagaggacgatttcgaattagaagaaccaacaggagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cagttgcagaggaaacatcgatcgtagaagaacaaccagttgcagaggaagcaccagtcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        aagtagaagaaaccgtagagggcgaagaaactgcagaaggaggaagaagtggaagaggtac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ctgcagaagtagaagtggaagaggtacctgcagaagtagaagaagtggaagaggtac
                                                                           399
                                                                                                                                                          459
                                                                                                                                                                                                                                                                             1265
                                                                                                                                                                                                                                                                                                                                                                                                                                       1385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1398
                                                                                                                                                                                                                                                                                                                                                                                             621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
8
                                     ò
                                                                           셤
                                                                                                                                             g
                                                                                                                                                                                           ò
                                                                                                                                                                                                                        g &
                                                                                                                                                                                                                                                                                                        Db
Qy
                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         φ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                          õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                         33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The invention relates to an isolated nucleic acid molecule (ABA90786-ABA90790 and ABA90848-ABA90875) and a MLVA primer (multilocus VNTR (variable number tandem repeat) analysis primer, ABA90770-ABA90785 and ABA90791-ABA90847) specific for Bacillus anthracis templates used in DNA finger printing of B. anthracis, useful for identifying strains of B. anthracis and related bacteria.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          agtaccagcggaagaattagatgccactccagaggatgacttcgcattagatgttacaga 1084
                                                                                                                                                                                                                                                                                                              Bacillus anthracis; MLVA primer; VNTR; DNA finger printing; anthrax; multilocus variable number tandem repeat analysis primer; PCR primer;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99 agaagaaaaagaagtggttcaagaaatgagtgcaccgcaggaagttccagcggctgaatt 158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                agaagatagttcagctgatggagcagaaaagtacatgttcctgctcaagaaaatgtaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               acctgccgatagtaatgatgccttttggaagtattttggataaagatatatttga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      acttcatgaaacaattgctgagcgcatggaaggtgcgaagcaagaaagtgatgtagtgga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tcatattaaagatttcgagccactattcgaacaaattgtggcgggtactgctaaacatgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 caaaaacattctacaagaggaattagtagattctaaagtagagcacgaggatacaatatt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tacgggacaagaattgccaatgaaacctgtaccattaccagtggcagaagagcccgcgca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 atcagaagaaattaaaacgtagtacagaaatagaacaacctactattgaagtagaaaaaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Novel nucleic acid molecules, primers for multilocus variable nun
tandem repeat analysis which are specific for Bacillus anthracis
templates, useful for DNA finger printing of B. anthracis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6.4%; Score 214.6; DB 24; Length 48.0%; Pred. No. 2.2e-26; Attive 0; Mismatches 854; Indels
                                                                                                                                                                                                                                                                        DNA fingerprinting PCR primer SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 2014 BP; 884 A; 278 C; 524 G; 328 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 43; Page 30; 71pp; English.
                                                                                                                                                        ВР
                                                                                                                                                      2014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26-APR-2001; 2001WO-US13373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26-APR-2000; 2000US-199911P
                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                        DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (REGC ) UNIV CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Jackson PJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2002-055350/07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity
Matches 812; Conserv
                                                                                                                                                        standard;
                                                                                                                                                                                                                                                                          anthracis
                                                                                                                                                                                                                                                                                                                                                                        Bacillus anthracis.
                                                                                                                                                                                                                                                                                                                                                                                                                WO200181543-A2
                2422
                                                    1381
                                                                                                                                                                                                                                   14-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                          01-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PS,
                  aga
                                                    1379 aga
                                                                                                                                                      ABA90791
                                                                                                                                                                                             ABA90791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           845
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1025
                2420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Keim
```

1444

1384

680

1623

1157

1923 1217

> g ð g ò ద ò g ô

à

1097 1863

```
/note= "This deletion replaces Arg with Ile and results
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Identifying dogs with or carrying X-linked progressive retinal atrophy by detecting retinitis pigmentosa GTPase regulator gene mutation, useful when breeding Husky, Samoyed and Miniature Schnauzer
                                                                           1574
                                                                                                                                                                                                           2463
                                                                                                                                                                                 1635 aacaagtagtagtggaaccacaagtggaagaaaaaccaatgcaacaagtagtagtggagc 1694
                                                                                                                                                                                                                                     cacaagtggaagaaaaaccaatgcagcaagtagtggtagaaccgcaagtggaagaaaaac 1754
                                                                                                                                                                                                                                                                                                                                                                                                                                                            XLPRAl; genetic marker;
Siberian Husky; Samoyed;
                                                                                                                                                                                                                                                                                                                                                                                                                                  Canine retinitis pigmentosa GTPase regulator (RPGR) mutant #1 cDNA.
2164 cagaagaagtagaagaggtacccgcagaagtagaagaagtggaagaggtaccagaagaag
                         gaacgaatggaatgcaatcttctatgagtgaaagagtagagaataagcctgtacatcaag
                                                   tggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaag
                                                                            tagaagaacaaccacaagtggaagaaaagccaatgcaacaagtagtagtggagcc---ac
                                                                                                       aagtggaagaagtggaagaagtagaagtagaggtaccagcggtagtagaagtagaag
                                                                                                                                aagtggaagagaaacaaatgcagcaagtagtggagccacaagtggaagaaaaaccaatgc
                                                                                                                                                          taccagcggtagtagaagaagaggtgccagaagaagtagaagaagaagaagaagaag
                                                                                                                                                                                                              /product- "Canine retinitis pigmentosa GTPase regulator mutant"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 'note= "CDS does not include start codon"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Zeiss CJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Dog; X-linked progressive retinal atrophy 1; retinitis pigmentosa GTPase regulator; RPGR; Miniature Schnauzer; mutant; mutein; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (877..878, AGAGAAT)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ray K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   in a premature stop codon'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
1..882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Zhang Q,
                                                                                                                                                                                                                                                                                                                                                       BP.
                                                                                                                                                                                                                                                                                                                                                      AAD07131 standard; cDNA; 2800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (CORR ) CORNELL RES FOUND INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000WO-US31940.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-0167365
                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /partial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ĞM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              replace
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /*tag=
                                                                                                                                                                                                                                                                                       caatgcaacaa 1765
                                                                                                                                                                                                                                                               2464 tagacaaacca 2474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Acland
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2001-367707/38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Canis familiaris.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    P-PSDB; AAE02398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO200138578-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          24-NOV-1999;
                                                                                                                                                                                                                                                                                                                                                                                                        06-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Aguirre GD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        31-MAY-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Synthetic
                                                                                                                                                                                                                                                                                                                                                                                AAD07131;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              mutation
                                                                                                                                                                                                                                                                                                                              11
                                                                                                                                                                                                                                     1695
                                                                                                                                                                                                                                                                                        1755
                         1458
                                                   2224
                                                                            1518
                                                                                                      2284
                                                                                                                                1575
                                                                                                                                                          2344
                                                                                                                                                                                                           2404
                                                                                                                                                                                                                                                                                                                                         AAD07131
                                                                                                                                                                                                                                                                                                                                                                     g
                                                                         g
                                                                                                                             g
                                                                                                                                                                             q
                                                                                                                                                                                                          δλ
                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                     g
ð
                                                   ò
                                                                                                     ò
                                                                                                                                                         ò
```

```
The invention relates to a method for identifying dogs which are genetically normal, are carriers of, or are affected with X-linked progressive retinal atrophy (XLPRA), by testing a biological sample with progressive retinal atrophy (XLPRA), by testing a biological sample with a genetic markers that co-segregate with a XLPRA gene locus. The invention also relates to canine retinitis pigmentosa GTPase regulator (RPGR), RPGR mutants and their corresponding nucleic acid molecules. The mutated RPGR genes are responsible for the XLPRA in dogs. Methods are used to select dogs for breeding stock. The method particularly applies to Siberian from the breeding stock. The method particularly applies to Siberian the disease is X-linked. XLPRA1 type is identified in Miniature Schnauzers. The present cDNA sequence is the mutant open reading frame (ORF) 15 encoding Canine retinitis pigmentosa GTPase regulator (RRGR) mutant found in XLDRA1 affected dogs. This mutant is obtained by deleting CGGAAA nucleotide bases from position 878 to 882 of the wild-type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1885 cagaagctccagaggaaggaattagtattagaaggagaaggagaaccaacggaagaag 1944
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           agggagaagaaaccgtagagggagaagaaaccgtagagggagaagaagctgcagaaggag 1464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1465 aagaagagttagaggcaactccagaggatgacttccaattagaagaaccatcaggagaag 1524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gagaaqggaaggagaaggagaaaggggaaggagaaggagaagcgttagtagcagtgccag 1584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tagtggccgaaccggtagaagtagtgactcctgctcagcctgtcaaaccaatggtcgctc 1644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ttacatcctttgagccattatttaaacaaatcctcaaggatcctgatgcaggagaggctg 1764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      taacagtaccatcaaaggaagcacctgtacaagtaccagtggcagtagggcccgcgcaag 1824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  aagtgccaacggaagaattgatgcaactccaagaggacgatttcgaattagaaggaactg 1884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1225 gaaggagaaacagaagaaacgtagaggagaagaaacagaagaagagagaagctgcagaaggagaag 1284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gagagaaaaacctagaagagaggaggcccaggaacaaagggagagaggaacaaggccatc 202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1645 caacggcagatgaaactttattcgttgatatcttagataacgatttaacgtatgcagaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                683 aaggaggaggaatgggaaggaaagggaagtggaagtaggaaggaaggaagggaagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1285 tatcagaagaaactccagaaggagaagaagattagaggcaactccagaggatgatttcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gggaagaaagaaacaaaggaacagaaggagaggaagggaaggaagcaaagagatgagaagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cattagatggaactacattagaagaaaccgaagaaactgcagaaggagaagaaccgtag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cagagaaagagaaggaagcagaagtagaggaaggaaggaggagggaattggaagagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 22; Length 2800;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 2800 BP; 1026 A; 287 C; 938 G; 549 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 211.6; DB 22;
Pred. No. 7.1e-26;
0; Mismatches 609;
                Page 32-33; 88pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6.38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity 49.1
Matches 588; Conservative
                                                                                                                                                                                                                                                                                                                                                                                  canine RPGR cDNA
                Claim 73;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     pp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Οý
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ω
```

```
1004 ccagaggacgatttcgaattagaagaaccaacaggagaagaagtagaagaaaccgtagag 2063
                                                                                                                                            gaagaggtacctgcagaagtagaagaagtggaagaggtaccagaagaagtagaagaggta 2183
                                                                                                                                                                                                                                 gtggaagataccagaagaagtggaagagtaccagaagaagtggaagaagtggaagtggaagaa 2303
                                                                                                                                                                                                                                                                            gtagaagaagtagaggtaccagcggtagtagaagtagaagtaccagcggtagtagaagaa 2363
                                                                                                                                                                                                                                                                                                                         XLPRA2; genetic marker;
Siberian Husky; Samoyed;
                                                                                                                                                                                                                                                                                                                                             1283 gggaaatatgaggagacaggagatgaagagagtgaaaaacagggaagacggggtgaag 1340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Canine retinitis pigmentosa GTPase regulator (RPGR) mutant #2 cDNA.
                                                    ggcgaagaaactgcagaaggagaagagtggaagaggtacctgcagaagtagaagtg
                                                                                                                                                                                      2184 cccgcagaagtagaagtggaagaggtaccagaagaagtggaagaggtaccagaagaa
                               1945 agccaagagaaggaggccaacagaagga-gaagtgccagaagaagaattagaggcaact
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       amino acids and ends in a premature stop codon"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note= "This deletion results in the change of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /*tag= a /*tag= a /*tag= a /*tag= a /*tag= a /*product= "Canine retinitis pigmentosa GTPase /productor mutant" /note= "CDS does not include start codon"
Dog; X-linked progressive retinal atrophy 2; retinitis pigmentosa GTPase regulator; RPGR; Miniature Schnauzer; mutant; mutein; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      replace (931..932, AGAG)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                           ВР
                                                                                                                                                                                                                                                                                                                                                                                                                         AAD07132 standard; cDNA; 2803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21-NOV-2000; 2000WO-US31940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99US-0167365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /partial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Canis familiaris.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200138578-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24-NOV-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   06-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   31-MAY-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                              AAD07132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       mutation
                                                                                                                                           983
                                                                                                                                                                                                                                                        2244
                                                                                                                     2064
                                                                                                                                                                 2124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Key
         음
                              ò
                                                   8
                                                                      õ
                                                                                           8
                                                                                                                    ö
                                                                                                                                    9
                                                                                                                                                          õ
                                                                                                                                                                                  a
                                                                                                                                                                                                          9 g
                                                                                                                                                                                                                                                õ
                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                8
```

```
The invention relates to a method for identifying dogs which are genetically normal, are carriers of, or are affected with X-linked progressive retinal atrophy (XLPRA), by testing a biological sample with genetic markers that co-segregate with a XLPRA gene locus. The invention also relates to canine retinitis pigmentosa GTPase regulator (RPGR), RPGR mutants and their corresponding nucleic acid molecules. The mutated RPGR genes are responsible for the XLPRA in dogs. Methods are used to select dogs for breeding so that dogs carrying the mutated locus are eliminate from the breeding stock. The method particularly applies to Siberian (NBCR), Samcyed and Miniature Schnauzer breeds, or any other breed where the disease is X-linked. XLPRA1 type is identified in Miniature Schnauzers. The present cDNA sequence is the mutant open reading frame (ORR) 15 and Samcyeds, while XLPRA2 type is identified in Miniature Schnauzers. The present cDNA sequence is the mutant open reading frame (ORR) 15 encoding Canine retinitis pigmentosa GTPase regulator (RPGR) mutant found in XLPRA2-affected dogs. This mutant is obtained by deleting 'GA' nucleotide bases from position 932 to 933 of the wild-type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ï
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1464
                                                                                                                                      Identifying dogs with or carrying X-linked progressive retinal atrophy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gaaggagaaacagaagaaacgtagaggagagaaaacagaagaagaagctgcagaaggagaag 1284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1285 tatcagaagaaactccagaaggagaaagaagaagttagaggcaactccagaggatgatttcg 1344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1345 cattagatggaactacattagaagaaaccgaagaaactgcagaaggaggagaagaaaccgtag 1404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                aagaagagttagaggcaactccagaggatgacttccaattagaagaaccatcaggagaag 1524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tagiggccgaaccggtagaagtagigaciccigcicagccigicaaaccaaiggicgcic 1644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1645 caacggcagatgaaactttattcgttgatatcttagataacgatttaacgtatgcagaca 1704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1705 ttacatectttgagecattatttaaacaaateetcaaggateetgatgeaggagaggetg 1764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             143 gagagaaaaacctagaagaggaggaggcccaggaacaaagggagaggaacaaggccatc 202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   agggagaagaaaccgtagagggagaagaaccgtagaggagaagaagctgcagaaggag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               563 aagggggaggggaattagaggaaggaggggaaaggggaaaggggaaggaagggggaattgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 by detecting retinitis pigmentosa GTPase regulator gene mutation, useful when breeding Husky, Samoyed and Miniature Schnauzer \,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 2803;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 2803 BP; 1028 A; 287 C; 939 G; 549 T; 0 other;
                                       C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 211; DB 22;
Pred. No. 8.9e-26;
0; Mismatches 665;
                                         Zeiss
                                         Ray K,
                                                                                                                                                                                                                     Claim 75; Page 34-35; 88pp; English.
                                       Zhang Q,
CORR ) CORNELL RES FOUND INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tch 6.3%;
al Similarity 48.3%;
622; Conservative
                                       GM,
                                       Acland
                                                                            WPI; 2001-367707/38
                                                                                             P-PSDB; AAE02399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 canine RPGR cDNA
                                       Aguirre GD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
```

"Mutational hot spot"

```
Claim 6; Page 90; 100pp; English
2004
                                                                                                                  2064
                                                                                                                                            2124
                                                                                                                                                         tagaagaagtagaggtaccagcggtagtagtagaagtagaagtaccagcggtagtagaagaag 2364
                                                                                                                                                                                                                                                                aggtgccagaagaagtagaagaagaagaagaagaagaagaagaagccagtagaggaagaagatg 2424
                                                                                                                                                                                                                                                                                                1281 aagagggaaatatgaggagacaggagatgaagagagggagtgaaaacagggaagacggggtg 1340
                                                                                                                                                                                                                                                                                                              980
                   Human; mutation; retinitis pigmentosa GTPase regulator; RPGR; genotyping; open reading frame; ORF; X-linked retinitis pigmentosa; XLRP; gene therapy; screening; forensic analysis; ds.
                                                                                                                                                                       aagaggtacctgcagaagtagaagtggaagaggtaccagaagaagtagaaggtac
     taacagtaccatcaaaggaagcacctgtacaagtaccagtggcagtagggcccgcgcaag
                               aagtgccaacggaagaattgatgcaactccaagaggacgatttcgaattagaaggaactg
                                                                         803 gagaagcagaagaagaagatgcagaagaagaagaaggaaagtggaagtagaagaagagg
                                                                                      1945 agccaagagaaggagagagccaacagaaggagaagtgccagaagaagaattagaggcaactc
                                                                                                    cagaggacgatttcgaattagaagaaccaacaggagagaagaagtagaagaaaccgtagagg
                                                                                                                               gcgaagaaactgcagaaggaagaagtggaagaggtacctgcagaagtagaagaagtgg
                                                                                                                                                                                                  ccgcagaagtagaagaagtggaagaggtaccagaagaagtggaagggtaccagaagaag
                                             cagaagctccagaggaaggagtaattagtattagaaggagaaggagaaccaacggaagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                 Mutational hot spot sequence of human RPGR exon ORF15 DNA.
                                                                                                                                                                                                                                                                                                                                                   2485 aattaggctctggaattttatctatcatc 2513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                         BP.
                                                                                                                                                                                                                                                                                                                                                                                         AAD21685 standard; DNA; 1050
                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1..73
/*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                   28-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                       AAD21685;
                                                                                                                                                                                                                                                                                                                                                                           RESULT 13
                                                                                                                                                                                                                                                        2305
                                                           1885
                                                                                                                  2005
                                                                                                                               923
                                                                                                                                            2065
                                                                                                                                                                                                 2185
                                                                                                                                                                                                                                                                                   2365
                                                                                                                                                                                                                                                                                                              2425
                                                                                                                                                                                                                                                                                                                                                                                   AAD21685
                                                                                                                                                                                                              g
                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                δ
                                                                                                                                       οy
                                                                                                                                                       a
                                                                                                                                                                  ò
                                                                                                                                                                                q
                                                                                                                                                                                                 ŏ
                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                              ò
     à
                  g
                               οχ
                                          g
                                                          ò
                                                                       g
                                                                                  οy
                                                                                                                           g
```

```
Diagnosing disease or predisposition to disease, associated with disease causing mutations in retinitis pigmentosa GTPase regulator gene by genotyping ORF15 of the gene, and determining presence of mutations
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              *tag= 1
note= "Benign or polymorphic sequence variant"
                                                                                                                                                                                                                   **tag= f
/note= "Mutational hot spot"
399..302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /*tag= o
/note= "Mutational hot spot"
849..853
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /*tag= r
/note= "Mutational hot spot"
                                                                             c
"Mutational hot spot"
                                                                                                                                                                          '*tag= e
'note= "Mutational hot spot"
                                                                                                                                                                                                                                                                                                                   *tag= h
'note= "Mutational hot spot"
                                                                                                                                                                                                                                                                                                                                                                                                                /*tag= j
/note= "Mutational hot spot"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  *tag= p
/note= "Mutational hot spot"
907..908
/*tag= q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       '*tag= q
'note= "Mutational hot spot"
                                               hot spot"
                                                                                                                             *tag= d
'note= "Mutational hot spot"
                                                                                                                                                                                                                                                                      *tag= g
note= "Mutational hot spot"
                                                                                                                                                                                                                                                                                                                                                                                note- "Mutational hot spot"
                                                                                                                                                                                                                                                                                                                                                                                                                                                              '*tag= k
'note= "Mutational hot spot"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       787..588
/*tag= m
/note= "Mutational hot
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         '*tag= n
'note= "Mutational hot
                               '*tag= b
'note= "Mutational
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10-APR-2000; 2000GB-0008801.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDI-) MEDICAL RES COUNCIL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10-APR-2001; 2001WO-GB01622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            524..526
                                                                                                                                                                                                        283..284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        520..621
                                                                                                           57..258
                                                                                                                                                           62..263
                                                                                                                                                                                                                                                                                                                                                                   tag=
/note=
93..94
/*tag=
                                                                               /*tag=
                                                                                               note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2001-663057/76.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO200177380-A2
                misc_feature
                                                              misc_feature
                                                                                                              misc_feature
                                                                                                                                                             misc_feature
                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Wright A;
```

The present invention relates to a method for diagnosing disease or predisposition to a disease, associated with a disease causing mutations in a retinitis pigmentosa GTPase requilator (RPGR) gene involves genotyping a RPG gene, and determining whether the genotype comprises a disease causing mutations, where the risk genotype is present within open reading frame (ORF)15 of the RPGR gene. The method is useful for detecting a certain disease state e.g., X-linked retinitis pigmentosa (XRRP). The kit is useful for detecting and reasuring disease causing mutations in biological fluids and tissues and for localising mutation in tissues. The mutant RPGR gene is useful in gene therapy techniques and for screening agents capable of activity of mutant RPGR. They are preferably useful for identifying agonists and antagonists of RPGR. The mutant RPGR gene is also useful in identification of potential pharmaceutical targets in high throughput screening assays and forensic analysis. The present sequence is the mutational hot spot sequence of human RPGR exon ORFIS DNA. 

Sequence 1050 BP; 428 A; 15 C; 595 G; 12 T; 0 other;

5; gggagaagaaaccgtagagggagaagaagccgtagagggagaagaagctgcagaaggaga 1465 1466 agaagagttagaggcaactccagaggatgacttccaattagaagaaccatcaggagaagg 1525 1586 agtggccgaaccggtagaagtagtgactcctgctcagcctgtcaaaccaatggtcgctcc 1645 1706 tacatcctttgagccattatttaaacaaatcctcaaggatcctgatgcaggagaggctgt 1765 aacagtaccatcaaaggaagcacctgtacaagtaccagtggcagtagggcccgcgcaaga 1825 agaagctccagaggaaggaattagtattagaaggagaaggagaaccaacggaagaaga 1945 1946 gccaagagaaggaggccaacagaaggagaagtgccagaagaagaagaattagaggcaactcc 2005 cgaagaaactgcagaaggagaagaagtggaagaggtacctgcagaagtagaagtgga 2125 aacggcagatgaaactttattcgttgatatcttagataacgatttaacgtatgcagacat 1705 agtgccaacggaagaattgatgcaactccaagaggacgatttcgaattagaaggaactgc 1885 356 tgaggggaagaagaggaaggaagggaagggaagaagaggaaggaaggaaggaagaagaaga 415 416 aggaggaaagggaaagggaaggaaggaaggaagaaggaagaaggaagaagaaggaaggaagga 475 agaggaaggaaggaaagggaaggaggaaggaaggaaggaaggaaggaaggaaggaggaa agaggacgatttcgaattagaagaaccaacaggagaagaagtagaagaaaccgtagaggg DB 22; Length 1050; ., 8 Score 200.6; DB 22; Length Pred. No. 3.9e-24; 0; Mismatches 494; Indels Match 6.0%; Local Similarity 51.1%; es 525; Conservative Query Match Best Local S Matches 1406 1646 1766 1826 2006 536 596 1886 8 g g ð ò ò ò 요 ò g ò g ò a ò g ò 8 ò ò g ð

agaggaaggaaggaaagggaaagggaaggatggaagaagggaagggaaggaaggaagg 715

959

셤

polypeptide (II) sequences. (I) is useful as hybridisation probes, polymerase chain reaction (PCR) primers, oligomers, and for chromosome and gene mapping, and in recombinant production of (II). The polymucleotides are also used in diagnostics as expressed sequence tags for identifying expressed genes. (I) is useful in gene therapy techniques to restore normal activity of (II) or to treat disease states involving (II). (II) is useful for generating antibodies against it, detecting or quantitating a polypeptide in tissue, as molecular weight markers and as 2126 agaggtacctgcagaagtagaagaagtggaagaggtaccagaagaagtagaagaggtacc 2185 2246 ggaagaggtaccagaagaagtggaagagtaccagaagaagtggaagaagtggaagaagt 2305 2306 agaagaagtagaggtaccagcggtagtagaagtagaagtaccagcggtagtagaagaaga 2365 Human; chromosome mapping; gene mapping; gene therapy; forensic; food supplement; medical imaging; diagnostic; genetic disorder; ss. 2186 cgcagaagtagaagtggaaggtgccagaagaagtggaagtggaagagtaccagaaga ggtgccagaagaagtagaagaagaagaagaagaagaagaaccagtagaggaagatgt New isolated polynucleotide and encoded polypeptides, useful in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits and to assess The invention relates to isolated polynucleotide (I) and novel human diagnostic protein #26492. Claim 1; SEQ ID No 26492; 103pp; English. AAS90688 standard; cDNA; 621 BP Tang YT; 30-MAR-2001; 2001WO-US08631 2000US-0540217 2000US-0649167 (first entry) 2001-639362/73 Drmanac RT, Liu C, 1013 agaagaa 1019 (HYSE-) HYSEQ INC. 2426 attacaa 2432 WPI; 2001-639362/ P-PSDB; ABG26501 WO200175067-A2 ONA encoding Homo sapiens. 31-MAR-2000; 23-AUG-2000; 13-FEB-2002 biodiversity 11-0CT-2001 AAS90688; AAS90688 g ò qq δ a ò Op δ g ò q 

```
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  pp
         δy
                                                                                                                                                                                                                                                                                                                                                                                                                                        5;
                                                                                                                                                                                               diagnostic coding sequences of the invention.
Note: The sequence data for this patent did not appear in the printed
specification, but was obtained in electronic format directly from WIPO
a food supplement. (II) and its binding partners are useful in medical imaging of sites expressing (II). (I) and (II) are useful for treating disorders involving aberrant protein expression or biological activity. The polypeptide and polynucleotide sequences have applications in diagnostics, forensics, gene mapping, identification of mutations responsible for genetic disorders or other traits to assess biodiversity and to produce other types of data and products dependent on DNA and amino acid sequences. AAS64197-AAS94564 represent novel human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       agaaggagaaggagaaccaacggaagaagagccaagagaaggagagaccaacagaaggaga 1975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1976 agtgccagaagaagaattagaggcaactccagaggacgatttcgaattagaagaaccaac 2035
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2036 aggagaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggagaagaagtgga 2095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2335 aagtagaagtaccag-cggtagtagaagaagaggtgccagaagaagtagaagaagaagaa 2393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2275 taccagaagaagtggaaqaagtggaagaagtagaagaagtagaggtgccagcggtagtag 2334
||| ||| |||||| ||||||| || ||||| || ||| || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        latency-associated nuclear antigen; LANA; gamma-2 herpes virus; Human herpes virus 8; HHV8; Fhadino virus cist-acting element; RVCAE; Kaposi's sarcoma; primary effusion lymphoma; PEL; human immunodeficiency virus; HIV; multicentric Castleman's disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cagaaqaaqtggaaqaqtaccagaaqaaqtggaaqaggtaccagaagaagtggaagagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 173 aggagaagaaggagaaggagagagagagagagagagaagaagaagaagaagaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2096 agaggtacctgcagaagtagaagtggaagtggaagggtacctgcagaagtagaa-gaagtgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               353 aagaagaagaagaagaagtatccaatgtgggttgcatctgagactctgggagaaatcta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 621;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Kaposi's sarcoma-associated herpesvirus; KSHV; rhadino virus;
                                                                                                                                                                                                                                                                                                                                                                                      Score 199.6; DB 23; Length
Pred. No. 5.2e-24;
0; Mismatches 189; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gaagaggaagaaccagtagaggaagaagatgtattacaattagtaa 2439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 621 BP; 324 A; 36 C; 227 G; 34 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Kaposi's sarcoma-associated herpesvirus LANA gene.
                                                                                                                                                                                                                                                                       ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAA30290 standard; DNA; 3489 BP
                                                                                                                                                                                                                                                                                                                                                                                    6.0%;
(al Similarity 63.7%;
335; Conservation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        11-SEP-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAA30290;
                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                       Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1916
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2155
                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAA30290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
```

```
The present sequence is the Kaposi's sarcoma-associated herpesvirus, (KSHV) latency-associated nuclear antigen (LANA) gene. KSHV is also known as Human Herpes Virus 8 (HHVB) and belongs to the rhadino virus, or gamma-2 herpes virus class. The LANA protein is necessary for the fiftienth persistence of rhadino virus based is necessary for the rhadino virus infection is implicated in a variety of diseases e.g. Kaposi's Sarcoma (KS), Primary Effusion Lymphoma (PEL) and multicentric Castleman's disease. In addition, KS is a common malignancy in HIV patients. KSHV persists in host cells in a latent form. One of the few genes expressed from the latent viral DNA is LANA. LANA associates with both human chromosomes and with the rhadino virus cis-acting element (RVCAE), thereby providing a tethering function: the KSHV DNA episome is tied" to the host chromosomes. This allows the viral DNA to persist in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the host cell. The present sequence may be used to screen and identify molecules that inhibit LANA interaction with RVCAE, thereby interfering with the latency cycle of this virus. Potential antiviral treatments for the above mentioned diseases may therefore be based on LANA deregulation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1071 ttagatgttacagaatctcccgaggaagtagaattagtattagatgaagggcaactgaa 1130 | | | | | | | | | | | | | | |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gaagaatcaacggaagtgggaccaacggaagaaggaccaaccgaagaattagatgccact 1190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1011 gaagagcccgcgcaagtaccagcggaagaattagatgccactccagaggatgacttcgca 1070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1027 gaggatgacgaggaggatgacgaggaggatgacgaggaggatgacgaggaggatgacgag 1086
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1087 gaggatgacgaggaggatgacgaggaggatgacgaggaggatgacgaggaggagg-atgacga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Treating or preventing a disease associated with rhodino virus infection in a mammal which includes Kaposi's Sarcoma and Primary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 3489;
                                                                                                                                                                                                    /*tag= b
/note= "nuclear localisation signal, NLS"
190..210
/*tag= c
                                                                                                                                                                                                                                                                                                                                          /*tag= c
/note= "nuclear localisation signal, NLS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 3489 BP; 1053 A; 862 C; 1137 G; 437 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6.0%; Score 199; DB 21;
16.9%; Pred. No. 8.6e-24;
ive 0; Mismatches 770;
Kaposi's sarcoma-associated herpesvirus.
                                                                 Location/Qualifiers
1..3489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Fig 6; 70pp; English.
                                                                                                                                                                 "LANA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    98US-0109422.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              46.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99WO-US27508
                                                                                                                                                                 'product=
                                                                                                                                      /*tag= a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity 46.9
Matches 685; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Kieff ED, Ballestas ME,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ωį.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (KIEF/) KIEFF E D.
(BALL/) BALLESTAS M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2000-387829/33.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Effusion Lymphoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (BALL/) BALLESTAS
(KAYE/) KAYE K M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P-PSDB; AAY96255
                                                                                                                                                                                                                                                                                                                                                                                                                                       WO200029626-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19-NOV-1998;
21-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19-NOV-1999;
                                                                                                                                                                                                       misc_signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        25-MAY-2000
                                                                                                                                                                                                                                                                                                           misc_signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                        Key
```

```
ggatgagcagcagcaggatgagcagcagcaggatgagcagcagcaggatgagcagcagca 1925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cgaggaggatgacgatgaggacaatgaggacgaggaggaggatgacgaggaggaggacaa 1265
                                                                                                                                                                                                                                                                                                        gaggatgacttccaattagaagaaccatcaggagaaggagaaggggaaggaggaggagaa 1547
                                                                                                                                                                                                                                                                                                                                                                   ggggaaggagaaggagagagcttagtagcagtgccagtagtggccgaaccggtagaagta 1607
                                                                                                                                                                                                                                                                                                                                                                                                                              gtgactcctgctcagcctgtcaaaccaatggtcgctccaacggcagatgaaactttattc 1667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cctgtacaagtaccagtggcagtagggcccgcgcaagaagtgccaacggaagaattgatg 1847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaagtg 2267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gcagcaggatgagcagcagcagcaggatgaacaggagcagcaggaggagcaggagcagca 2285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gttgatatcttagataacgatttaacgtatgcagacattacatcctttgagccattattt 1727
                                                                                                                                                                                                                                                                          gcaggagccacaacagcaggagccacagcaggagcccctgcaggagccacacaacagca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1728 aaacaaatcctcaaggatcctgatgcaggagaggctgtaacagtaccatcaaaggaagca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ggatgagcagcaggatgagcagcagcagcagcagcagcagcagcagcagca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gaaggagaagtgccagaagaagaattagaggcaactccagaggacgatttcgaattagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gaaccaacaggaggaagtagaagaaaccgtagagggcgaagaaactgcagaaggagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gaagtggaagagtaccagaagaagtagaaggaggtacccgcagaagtagaagagtggaa
 ccagaggatggatttcgcattagacgaaactgcagaaggagaaacagaaggaaacgtagag
                                                                                          gaaggaggacgaggaggaggggggggagagagagagagttgagcatccaaagttcaca
                                                                                                                        gaagagttagaagcaactccagaggatgatttcgcattagatggaactacattagaagaa
                                                                                                                                                                                 1371 accgaagaaactgcagaaggagaagaaaccgtagagggag---aagaaaccgtagaggga
                                                                                                                                                                                                              cctgcaggagccacaacagcaggagccacagcaggagccacaggagcccct
                                                                                                                                                                                                                                               gaagaaaccgtagagggagaagaagctgcagaaggagaagaagaggttagaggcaactcca
                                                                                                                                                                                                                                                                                                                                     ggatgagcagcaggatgagcagcagcaggatgagcagcagcagcaggatgagcagcagca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ggatgagcagcagcaggatgagcagcagcaggatgagcagcagcaggatgagcagcagca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ggatgagcagcaggatgagcagcagcaggatgagcagcagcaggatgagcaggagca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gaagtggaagaggtacctgcagaagtagaagaagtggaagaggtacctgcagaagtagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gcagcagcagcaggatgagcagcagcagcaggatgagcagcagcaggatgagcagca
                                                             ggagaagaaacagaagctgcagaaggagaagtatcagaagaaactccagaaggagaa
                            1206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1788
                                                                                       1266
                                                                                                                     1311
                                                                                                                                                   1326
                                                                                                                                                                                                              1386
                                                                                                                                                                                                                                            1428
                                                                                                                                                                                                                                                                          1446
                                                                                                                                                                                                                                                                                                     1488
                                                                                                                                                                                                                                                                                                                                   1506
                                                                                                                                                                                                                                                                                                                                                                  1548
                                                                                                                                                                                                                                                                                                                                                                                              1566
                                                                                                                                                                                                                                                                                                                                                                                                                                                         1626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1968
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2226
 1191
                                                            1251
                                                                                                                                                                                                                                                                                                                                                                                                                            1608
                          8
                                                                                                                                                                                                      q
                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                               õ
                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
à
                                                         à
                                                                               g
                                                                                                                   ò
                                                                                                                                          셤
                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
```

```
The invention provides a composition comprising nucleic acid, histone HI protein and expression vector operationally encoding a protein suitable for tethering the nucleic acid to the histone HI protein, where the tethering protein is LANA. The composition is useful in aiding the retention of the viral DNA in the host cell. The viral vector encodes a protein suitable for tethering DNA to Histone HI. Methods for screening for compounds which are agonistic or antagonistic for the tethering of viral proteins to histone HI and DNA binding sites are useful for developing the method of viral transfer. The composition has applications to gene therapy, including the treatment of multiple sclerosis, parkinson's disease, Huntington disease and diabetes. The present
                                                                                                                                                                                                                                                                                                                                                                                                                                    Histone H1; tethering protein; LANA; gene therapy; multiple sclerosis; Parkinson's disease; Huntington disease; diabetes; human herpesvirus 8; KSHV; latency-associated nuclear antigen; LANA; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A composition for use in gene therapy comprises an expression vector that includes a nucleic acid sequence encoding a nucleic acid binding
                                                                                                                                                    2406 ggagttagaggagcaggagcaggagttagaggagcaggagcaggagttagaggagcagga 2465
2327
 gaagaggtaccagaagaagtggaagaagtggaagtagaagtagaagtagaagtagaggtaccagcg
                              2286 ggaggagcaggagcaggagttagaggagcaggagcaggagttagaggatcaggagcagga
                                                                gtagtagaagtagaagtaccagcggtagtàgaagaagaggtgccagaagaagtagaagaa
                                                                                            gttagaggagcaggagcaggagttagaggagcaggagcaggagttagaggagcaggagca
                                                                                                                             gaagaagaagaagaaccagtagaggaagaagatgtattacaattagtaataccatcg
                                                                                                                                                                                                                                                                                                                                                                                                    Nucleotide sequence of KSHV tethering protein, LANA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (aposi's sarcoma associated herpesvirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Fig 9A; 60pp; English.
                                                                                                                                                                                                                                                                                                         BP.
                                                                                                                                                                                           2466
                                                                                                                                                                                                                          2466 gcaggagttagaggagcag 2484
                                                                                                                                                                                                                                                                                                       AAF82901 standard; DNA; 3489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  29-SEP-2000; 2000WO-US26908.
                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                           gaagaagatatacaattag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1.3489/*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cotter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (UNMI ) UNIV MICHIGAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2001-281736/29.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P-PSDB; AAB62331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO200125484-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Robertson ES,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-OCT-1999;
                                                                                                                                                                                                                                                                                                                                                                        29-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12-APR-2001
                                                                                                                                                                                                                                                                                                                                       AAF82901;
                                                                                                                                                                                                                                                                                                                                                                                                                                      Histone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein
2268
                                                                                            2346
                                                                                                                           2388
                                                                                                                                                                                           2448
                                                              2328
                                                                                                                                                                                                                                                                                        g
                                                                                                                                                        g
                                                                                                                                                                                           ò
                                                                                                                                                                                                                    පු
                                                            δý
                                                                                       g
                                                                                                                         ò
```

08:32:36

17

Jun

Mon

```
Disclosure; Column 155-182; 109pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                15-DEC-1998
                                                                                                                                                                                                                                                                                                                             AAV73805;
                                                                                                                                                                                                                                                                                               17
1986
                                                                 2106
                                                                                                   2166
                                                                                                                   2208
                                                                                                                                  2226
                                                                                                                                                                                                                     2388
                 2028
                                                                                  2148
                                                                                                                                                    2268
                                                                                                                                                                    2286
                                                                                                                                                                                    2328
                                                                                                                                                                                                                                                      2448
                                  2046
                 ò
                               Db
                                                 δý
                                                               g
                                                                                  Ω
                                                                                                 g
                                                                                                                 Ω
                                                                                                                                g
                                                                                                                                                   QΥ
                                                                                                                                                                  g
                                                                                                                                                                                   ò
                                                                                                                                                                                                    g
                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                       2
                                                                                                                                                                                                                                                                                             1487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1967
                                                         gaagagcccgcgcaagtaccagcggaagaattagatgccactccagaggatgacttcgca 1070
                                                                                                                                                                           cgaggaggatgacgatgatgaggacaatgaggacgaggaggaggatgacgaggaggaggacaa 1265
                                                                                                                                                                                                                                                             1427
                                                                                                                                                                                                                                                                                                             1505
                                                                                                                                                                                                                                                                                                                                    1607
                                                                                                                                                                                                                                                                                                                                                                                              gtgactcctgctcagcctgtcaaaccaatggtcgctccaacggcagatgaaactttattc 1667
                                                                                                                                                                                                                                                                                                                                                                                                                              gttgatatcttagataacgatttaacgtatgcagacattacatcctttgagccattattt 1727
                                                                                                                                                                                                                                                                                                                                                                                                                                        aaacaaatcctcaaggatcctgatgcaggagaggctgtaacagtaccatcaaaggaagca 1787
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cctgtacaagtaccagtggcagtagggcccgcgcaagaagtgccaacggaagaattgatg 1847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ggatgagcagcagcaggatgagcagcagcaggatgagcagcagcaggatgagcagcagca 1925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ggatgagcagcagcaggatgagcagcagcaggatgagcagcagcaggatgagcagcagca 1865
                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ttagtattagaaaggaqaaggagaaccaacggaagaagagccaagagaaggagagccaaca
                                                                         gaggatgacgaggatgacgaggaggatgacgaggaggatgacgaggaggatgacgag
                                                                                          ttagatgttacagaatctcccgaggaagtagaattagtattagatgaaggcaactgaa
                                                                                                    gaagaatcaacggaagtgggaccaacggaagaagaagaactacat
                                                                                                                                        ccagaggatggatttcgcattagacgaaactgcagaaggagaaacagaagaaacgtagag
                                                                                                                                                                                                      1311 gaagagttagaggcaactccagaggatgatttcgcattagatggaactacattagaagaa
                                                                                                                                                                                                                                            accgaagaaactgcagaaggagaaaaccgtagagggag---aagaaaccgtagaggga
                                                                                                                                                                                                                                                                       gaagaaaccgtagaggagaagaagctgcagaaggagaagaagaagttagaggcaactcca
                                                                                                                                                                                                                                                                                                                            ggggaaggagaaggagagcgttagtagcagtgccagtagtggccgaaccggtagaagta
                                                                                                                                                                                                                                                                                                                                                                             gaaggagaagtgccagaagaagaattagaggcaactccagaggacgatttcgaattagaa
                                                                                                                                                                                                                                                                                                            1446 gcaggagccacaacagcaggagccacagcagcaggagccctgcaggagccacaacagca
                                                                                                                                                                                           ggagaagaaacagaagaagctgcagaaggagaagtatcagaagaaactccagaaggagaa
                                          4;
                         3489;
                                         Indels
G; 437 T; 0 other;
                         Length
                                         770;
                        ; DB 22;
8.6e-24;
                                         0; Mismatches
                        Score 199;
Pred. No. 8
Sequence 3489 BP; 1053 A; 862 C; 1137
                        6.0%;
46.9%;
                                al Similarity 46.9
685; Conservative
                       Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                             1728
                                                         1011
                                                                        1027
                                                                                         1071
                                                                                                         1087
                                                                                                                         1131
                                                                                                                                                          1191
                                                                                                                                                                          1206
                                                                                                                                                                                           1251
                                                                                                                                                                                                                                                           1371
                                                                                                                                                                                                                                                                                             1428
                                                                                                                                                                                                                                                                                                                            1488
                                                                                                                                                                                                                                                                                                                                            1506
                                                                                                                                                                                                                                                                                                                                                             1548
                                                                                                                                                                                                                                                                                                                                                                                            1608
                                                                                                                                                                                                                                                                                                                                                                                                             1626
                                                                                                                                                                                                                                                                                                                                                                                                                              1668
                                                                                                                                                                                                                                                                                                                                                                                                                                             1686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1806
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1968
                                         Matches
S
                                                         ò
                                                                        a
                                                                                          à
                                                                                                      a
                                                                                                                        à
                                                                                                                                     g
                                                                                                                                                                     Q
                                                                                                                                                                                          Oy
Dp
                                                                                                                                                                                                                                       op
                                                                                                                                                                                                                                                          Óγ
                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                       O.Y
Db
                                                                                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                         Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                      ò
                                                                                                                                                                                                                      οý
                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                        οy
                                                                                                                                                                                                                                                                                                                                                                                                                             ογ
                                                                                                                                                                                                                                                                                                                                                                                                                                                           οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

```
Kaposi's sarcoma; acquired immune deficiency syndrome; AIDS; DHFR; Bcl-2; dihydrofolate reductase; LUR; long unique region; vaccine; prophylaxis; diagnosis; treatment; HHVB; capsid protein IV; tegument protein IV; glycoprotein; kaposin; cyclin D; immediate early protein; IEP; OX-2; v-adh; G-protein coupled receptor; FGARAT; ds.
ggatgagcagcaggatgagcagcagcagcaggatgagcagcagcaggatgagcagcagcagca 2045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2406 ggagttagaggagcaggagcaggagttagaggagcaggagcaggagttagaggagcagga 2465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Kaposi's sarcoma-associated herpes virus nucleic acid - encodes di:hydro:folate reductase and is useful for treatment, prophylaxis or diagnosis of Kaposi's sarcoma
                                                               gaagtggaagaggtacctgcagaagtagaagaagtggaagaggtacctgcagaagtagaa
                                                                                                                                                                                                                                                                          gcaggatgagcaggagcagcaggatgagcaggagcagcaggatgacagcagcaggatga
                                                                                                                                                                                                                                                                                                                                                                                                             gcagcagcagcaggatgagcagcagcaggatgagcagcagcagcaggatgagcagca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaagagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ggaggagcaggagcaggagttagaggagcaggagcaggagttagaggatcaggagcagga
                                                                                                                                   ggatgagcagcagcaggatgagcagcagcaggatgagcagcagcaggatgagcaggagca
                                                                                                                                                                                                                                                                                                                                         gaagtggaagaggtaccagaagaagtagaaggaggtacccgcagaagtagaagtggaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gcagcaggatgagcagcagcaggatgaacaggagcagcaggaggagcaggagcagca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gaagaggtaccagaaggaagtggaagtggaagtagaagtagaagtagaagtagaggtaccagcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gtagtagaagtagaagtaccagcggtagtagaagaagaaggtgccagaagaagtagaagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2346 gttagaggagcaggagcaggagttagaggagcaggagcaggagttagaggagcaggagca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gaagaagaagaagaaccagtagaagaagaagatgtattacaattagtaataccatcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Russo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KSHV LUR DNA (nucleotides 105, 301-137, 507).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Moore
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Kaposi's sarcoma-associated herpesvirus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Edelman IS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    UYCO ) UNIV COLUMBIA NEW YORK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gaagaagatatacaattag 2466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA; 32207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 96US-0770379.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 96US-0770379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2466 gcaggagttagaggagcag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Chang Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1999-069741/06
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAV73805/c
ID AAV73805 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 29-NOV-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bohenzky RA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29-NOV-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25-FEB-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US5849564-A.
```

```
This sequence is a fragment of the Kaposi's sarcoma-associated herpesitus (KSHV) LUR (long unique region). This fragment contains coding regions for ORF65 which encodes capsid protein IV, ORF66, ORF67 which encodes tegument protein IV, ORF68 which encodes a glycoprotein, ORF99, K12 which encodes kaposin, K13, ORF73 which encodes cyclin D, ORF73 which encodes immediate early protein (IEP), K14 which encodes (Vx-adh), ORF74 which encodes G-protein coupled receptor, ORF75 which encodes tegument protein/FGARAY, K15. KSHV is a new human Herpesvirus (HHV8) believed to cause Kaposi's sarcoma (KS) which is the most common form of neoplasm occurring in persons with acquired immune deficiency syndrome (AIDS). The DHFR protein is useful for vaccination, prophylaxis, diagnosis and treatment of a subject with Kaposi's sarcoma and for detecting expression of a DNA virus associated with Kaposi's
                                                                                                                                                                                                                                                                                                                                                                                                             sarcoma in a cell.
```

```
5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20970 GAGGATGACGAGGAGGATGACGAGGATGACGAGGAGGAGGATGACGAGGATGACGAG 20911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gaagagttagaggcaactccagaggatgatttcgcattagatggaactacattagaagaa 1370
                                                                                                          gaagagcccgcgcaagtaccagcggaagaattagatgccactccagaggatgacttcgca 1070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ggggaaggagaaggagaagcgttagtagcagtgccagtagtggccgaaccggtagaagta 1607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gtgactcctgctcagcctgtcaaaccaatggtcgctccaacggcagatgaaactttattc 1667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             aaacaaatcctcaaggatcctgatgcaggagaggctgtaacagtaccatcaaaggaagca 1787
                                                                                                                                                                   1071 ttagatgttacagaatctcccgaggaagtagaattagtattagatgaagaggcaactgaa
                                                                                                                                                                                                                                                20910 GAGGATGACGAGGATGACGAGGATGACGAGGAGGATGACGAGGAGGATGACGA
                                                                                                                                                                                                                                                                                            ccagaggatggatttcgcattagacgaaactgcagaaggagaaacagaagaaacgtagag
                                                                                                                                                                                                                                                                                                                       20791 CGAGGAGGATGACGATGAGGACAATGAGGACGAGGAGGAGGATGACGAGGAGGACAA
                                                                                                                                                                                                                                                                                                                                                      ggagaagaaacagaagaagctgcagaaggagaagtatcagaagaaactccagaaggagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            accgaagaaactgcagaaggagaaaccgtagagggag...aagaaaccgtagaggga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20551 GCAGGAGCCACAACAGCAGGAGCCACAGCAGCAGGAGCCCCTGCAGGAGCCACAACAGCA
                                                                                                                                                                                                                                                                                                                                                                                20731 GAAGGAGGACGAGGACGGGGGCGATGGAAACAAAACGTTGAGCATCCAAAGTTCACA
                                                                                                                                                                                                                                                                                                                                                                                                                                           gttgatatcttagataacgatttaacgtatgcagacattacatcctttgagccattattt
                                                                                                                                                                                                                                  gaagaatcaacggaagtgggaccaacggaagaaggaccaaccgaagaattagatgccact
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gaggatgacttccaattagaagaaccatcaggagaaggagaaggggaaggagaaggagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gaagaaaccgtagaggagaagaagctgcagaaggagaagaagagttagaggcaactcca
                                                                                4;
                                               Length 32207;
Sequence 32207 BP; 7229 A; 9156 C; 8713 G; 7109 T; 0 other;
                                                                             Indels
                                                                           0; Mismatches 770;
                                             Score 199; DB 20;
Pred. No. 1.2e-23;
                                            6.0%;
46.9%;
                                                                         Matches 685; Conservative
                                                             Local Similarity
                                               Query Match
                                                                                                       1011
                                                                                                                                                                                                                                                                                         1191
                                                                                                                                                                                                                                1131
                                                                                                                                                                                                                                                                                                                                                     1251
                                                                                                                                                                                                                                                                                                                                                                                                                 1311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20311
                                                                                                         ò
                                                                                                                                    g
                                                                                                                                                                   ò
                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                               Op
                                                                                                                                                                                                                                                                                                                                                                         q
                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         q
                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                       õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
```

```
KSHV; HHVB; human herpes virus 8; macrophage inflammatory protein II; interleukin-6; IL-6; interferon regulatory factor; rheumatoid arthritis; complement-binding protein; glycoprotein; capsid protein IV; infection; immediate early protein; Kaposi's sarcoma; protective vaccine; lymphoma; lymphoproliferative disease; leukaemia; splenomegaly; mycosis fungoides; HIV immune status; anti-inflammatory agent; therapy; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           20071 GGATGAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCA 20012
                                                                                                                                                                                                                                                   20011 GGATGAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCAGCAGGATGAGCAGCAGCA
                                                                                                                                                                                                                                                                                                                         GGATGAGCAGCAGCAGCAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGGAGCA 19892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19711 GGAGGAGCAGGAGCAGGAGTTAGAGGAGCAGGAGCAGGAGTTAGAGGATCAGGAGCAGGA 19652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19591 GGAGTTAGAGGAGCAGGAGCAGGAGTTAGAGGAGCAGGAGCAGGAGTTAGAGGAGCAGGA 19532
 cctgtacaagtaccagtggcagtagggcccgcgcaagaagtgccaacggaagaattgatg 1847
                                                                                                                                                                                                                                                                                                                                                                                             GCAGGATGAGCAGGAGCAGCAGGATGAGCAGGAGCAGCAGGATGAGCAGCAGCAGGATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19651 GTTAGAGGAGCAGGAGCAGGAGTTAGAGGAGCAGGAGCAGGAGTTAGAGGAGCAGGAGCA
                                20191 GGATGAGCAGCAGCAGGATGAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCA
                                                                   GGATGAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCAGCAGCAGCAGCAGCA
                                                                                                                                           gaaggaggagtgccagaagaattagaggcaactccagaggacgatttcgaattagaa
                                                                                                                                                                                                                                                                                         gaaccaacaggaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggagaa
                                                                                                                                                                                                                                                                                                                                                              gaagtggaagaggtacctgcagaagtagaagtggaagtggaaggtacctgcagaagtagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                      gaagtggaagaggtaccagaagaagtagaaggaggtacccgcagaagtagaagtggaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19771 GCAGCAGGATGAGCAGCAGCAGGATGAACAGGAGCAGCAGGAGGAGGAGCAGGAGCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gaagaggtaccagaagaagtggaagaagtggaagaagtagaagtagaagtaccagcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gtagtagaagtagaagtaccagcggtagtagaagaagaggtgccagaagaagtagaagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gaagaagaagaagaaccagtagaagaagaagatgtattacaattagtaataccatcg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KSHV long unique coding region and terminal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Kaposi's sarcoma-associated herpes virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAV19941 standard; DNA; 137507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19531 GCAGGAGTTAGAGGAGCAG 19513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gaagaagatatacaattag 2466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1142..2794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      03-AUG-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAV19941;
1788
                                                                                                                                       1908
                                                                                                                                                                                                               1968
                                                                                                                                                                                                                                                                                       2028
                                                                                                                                                                                                                                                                                                                                                           2088
                                                                                                                                                                                                                                                                                                                                                                                                                                    2148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2268
                                                                                                                                                                                                                                                                                                                                                                                               19891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2448
                                                                                                       20131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAV19941/
                            g
                                                                                                QQ
                                                                                                                                                                           q
                                                                                                                                                                                                                                             윤
                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                   ò
                                                                                                                                       ò
                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
```

/product = complement-binding protein

```
This sequence represents the long unique region and terminal repeat of the Kaposi's sarcoma-associated herpes virus (KSHV). KSHV is also known as human herpes virus 8 (HHV8). This sequence contains the DNAs of the invention which encode KSHV polypeptides selected from: (a) viral
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New nucleic acid encoding Kaposi's sarcoma associated herpes virus proteins - useful for, e.g. detecting levels of HHV8 in, and preparation of vaccines for treatment of, HIV patients
                                                                                   /product= macrophage inflammatory protein II
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Russo JJ;
                                                                                                                  'product= interferon regulatory factor 1
                                                                                                                                                                                                                                                                           /product= interferon regulatory factor 90173..90643
                                                                                                                                                                                                                                                                                                                                       /product= interferon regulatory factor complement (111931..112443)
                                                                                                                                                                                                                                            'product= interferon regulatory factor
                                                                                                                                                                                                                                                                                                                                                                                          /*tag= n
/product= immediate early protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Moore PS,
                                                                                                                                                                                                                                                                                                                                                                     /product= capsid protein IV complement (123808.127296)
                   /product= glycoprotein B complement (17261..17875)
                                                                                                                                               /product= protein T1.1
complement (58976..60175)
                                                              complement (21548..21832)
                                                                                           complement (27137..27424)
                                                                                                                                                                                                                                                                                                         /product= glycoprotein X complement (93636..94127)
                                                                                                                                                                                          complement (69412..69915)
                                                                                                                                                                                                              /product= glycoprotein L complement (88410..88910)
                                                                                                                                                                              /product= glycoprotein M
                                                    /product= interleukin 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example 2; Page 135-203; 230pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Edelman IS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (UYCO ) UNIV COLUMBIA NEW YORK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              96US-0686243.
96US-0686349.
96US-0686350.
96US-068814.
96US-0708678.
96US-0708678.
                                                                                                                          28661..29741
/*tag= f
                                                                                                                                                                                                                                                      89600..90541
 3699..11236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  97WO-US13346
                                                                                                         Ø
                                                                                                                                                                       σ
                                                                           /*tag= d
                                                                                                                                                                                                                                                                                                /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Chang Y,
                                                                                                                                                                                                                                                                  /*tag=
                                                                                                                                                                                                                                    *tad=
                                           *tag=
                                                                                                                                                                                                                                                                                                                               /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1998-130615/12
                                                                                                                                                                                                                                                                                                                                                                                                                        W09804576-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3ohenzky RA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 22-JUL-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   13-NOV-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         25-JUL-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25-JUL-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               25-JUL-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          25-JUL-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    05-SEP-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               10-0CT-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13-NOV-1996
                                                                                             CDS
                                                                                                                                                          CDS
                                                                                                                                                                                                                        CDS
                                                                                                                                                                                                                                                                                                                                                                                CDS
 CDS
                              CDS
                                                              CDS
                                                                                                                           CDS
                                                                                                                                                                                         CDS
                                                                                                                                                                                                                                                       CDS
                                                                                                                                                                                                                                                                                     CDS
                                                                                                                                                                                                                                                                                                                  CDS
                                                                                                                                                                                                                                                                                                                                                 CDS
```

```
macrophage inflammatory protein (MIP) II; (b) viral interleukin-6 (IL-6); (d) complement-binding protein; glycoproteins B, M or L; (d) capsid protein IV encoded by ORR65; and (e) immediate early protein or encoded by ORR73. Labelled probes for the nucleic acid, proteins encoded by it, and antibodies (Ab) specific for the proteins are useful for detecting HHV8, specifically for diagnosis of Kaposi's sarcoma, in body fluids or tissue samples. HHV8 infections can be treated with antisense or triplex forming molecules or agents that bind specifically to the protein. Ab may be used for prophylaxis or treatment of HHV8 infection, while the protein can be used in protective vaccines. Ab may also be used to differentiate between lymphomas, and HHV8 may be implicated in many other lymphoproliferative diseases such as lymphomas, leukaemia, splenomagaly and mycosis fungoides. Cells and animals containing the nucleic acid are useful for drug screening HHV8-derived peptides can be used as targets for antiviral drugs, e.g. dihydrofolate reductase gene can be inhibited with methotrexate. These can also be used to determine the immune status of a patient infected with HVV HHV8 derived protein viral MTP III may be used as an anti-inflammatory agent for, e.g. treating rheumatoid arthritis. This sequence is stated as containing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Db 126270 GAGGATGACGAGGAGGATGACGAGGAGGAGGAGGAGGAGGATGACGAGGAGGATGACGAG 126211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             126210 GAGGATGACGAGGATGACGAGGATGACGAGGAGGATGACGAGGAGGATGACGA 126152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DD 126091 CGAGGAGGATGACGATGATGAGGACAATGAGGACGAGGAGGAGGATGACGAGGAGGAGGACAA 126032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 126031 GAAGGAGGAGGAGGAGGACGGGGGGGGGAAACAAAACGTTGAGCATCCAAAGTTCACA 125972
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1011 gaagagcccgcgcaaagtaccagcggaagaattagatgccactccagaggatgacttcgca 1070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1071 ttagatgttacagaatctcccgaggaagtagaattagtattagatgaagaggcaactgaa 1130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gaagaatcaacggaagtgggaccaacggaagaaggaccaaccgaagaattagatgccact 1190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ccagaggatggatttcgcattagacgaaactgcagaaggagaaacagaagaaacgtagag 1250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ggagaagaaacagaagaagctgcagaaggagaagtatcagaagaaactccagaaggagaa 1310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1311 gaagagttagaggcaactccagaggatgatttcgcattagatggaactacattagaagaa 1370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1371 accgaagaaactgcagaaggagaagaaaccgtagagggag...aagaaaccgtagaggga 1427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gaagaaaccgtagaggagagaagctgcagaaggagaagaagaagaggaagttagaggcaactcca 1487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gaggatgacttccaattagaagaaccatcaggagaaggagaaggggaaggagaaggagaa 1547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ggggaaggagaaggagaagcgttagtagcagtgccagtagtggccgaaccggtagaagta 1607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gtgactcctgctcagcctgtcaaaccaatggtcgctccaacggcagatgaaactttattc 1667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 137507 BP; 32579 A; 37795 C; 35758 G; 31375 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 137507;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 199; DB 19; Length 1
Pred. No. 1.6e-23;
0; Mismatches 770; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches 685; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              open reading frames.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
              ōλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Óλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ΟŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δλ
```

1668 gttgatatcttagataacgatttaacgtatgcagacattacatcctttgagccattattt 1727

δλ

```
23-MAR-2000;
11-JUL-2000;
                                                                                                                                                 Interactions
27-SEP-2001
                                                                                                                                                                                                                                                                                                                                     Best Local Sim
Matches 891;
                                                                                  J,
                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                499
                                                                                                                                                                                                                                                                                                                                                                                                   559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   199
셤
                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Op
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                              Db 124951 GTTAGAGGAGCAGGAGCAGGAGTTAGAGGAGCAGGAGCAGGAGTTAGAGGAGCAGGAGCA 124892
Db 125371 GGATGAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCA 125312
                                                                                                                                                                                                                                                            124891 GGAGTTAGAGGAGCAGGAGCAGGAGTTAGAGGAGCAGGAGCAGGAGTTAGAGGAGCAGGA 124832
                                                                                                                                                                                            125311 GGATGAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGGATAACA 125252
                                                                                                                                                                                                                                                                                                                                                                          125251 GGATGAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGCAGCAGGATGAGCAGGAGGA 125192
                                            cctgtacaagtaccagtggcagtagggcccgcgcaagaagtgccaacggaagaattgatg
                                                                          gaggtaccagaagagtggaagaggtaccagaagaagtggaagaggtaccagaagagtg
                                                                                                                                                                                                                                                                                                                                           125071 GCAGCAGGATGAGCAGCAGCAGCAGGATGAACAGGAGCAGCAGGAGGAGCAGGAGCAGCA
                                                                                                                                                                                                                                                                                                                                                               gaagaggtaccagaagaagtggaagaagtggaagaagtagaagaagtagaggtaccagcg
                                                                                                                                                                                                                                                                                                                                                                                                                                       gaagaagaagaagaaccagtagaggaagaagatgtattacaattagtaataccatcg
                          1728 aaacaaatcctcaaggatcctgatgcaggagagaggctgtaacagtaccatcaaaggaagca
                                                                                                                                      gaaggagaagtgccagaagaagaattagaggcaactccagaggacgatttcgaattagaa
                                                                                                                                                                                                                                                    gaagtggaagaggtacctgcagaagtagaagaagtggaagaggtacctgcagaagtagaa
                                                                                                                                                                                                                                                                                       gaagtggaagagtaccagaagaagtagaagaaggacccgcagaagtagaagtggaa
                                                                                                                                                                                                                                                                                                                                                                                                   gtagtagaagtagaagtaccagcggtagtagaagaagaggtgccagaagaagtagaagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQ ID NO 10043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                developmental biology; cell signalling; insecticide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                polynucleotide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Drosophila melanogaster expressed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           124831 GCAGGAGTTAGAGGAGCAG 124813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4954
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gaagaagatatacaattag 2466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Orosophila melanogaster.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           pharmaceutical; gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABL05187 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO200171042-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Drosophila;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ABL05187;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2448
                                                                                                                                                                                                                                                  2088
                                                                                                                                                                                                                                                                                       2148
                                                              1788
                                                                                                                                                                                                                                                                                                                            2208
                                                                                                                                                                                                                                                                                                                                                              2268
                                                                                                                                                                                                                                                                                                                                                                                                   2328
                                                                                                                                      ò.
                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                              ò
                          ò
                                                             ò
                                                                                                                                                                          ð
                                                                                                                                                                                                              ò
                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
```

```
The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                               New isolated nucleic acid detection reagent for detecting 1000 or more genes from Drosophila and for elucidating cell signalling and cell-cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABLifi), expressed DNA sequences (ABLifi) and the encoded proteins (ABB57737-ABB72072).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         979 tgccaatgaaacctgtaccattaccagtggcagaagagcccgcgcaagtaccagcggaag 1038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2656 ATGATCCATCGGCTGGAGCACCAGGAGCGGCAGTTGTGACATCAGCAGGAGGCCAGGAG 2597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTGGAGCGCCAGGAGCGGCAGATGATCATCGGCTGGAGCACCAGGAGCGGCAGTTGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              859 atgatgccctctttggaagtattttggataaagatataatttttgatcatattaaagatt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cggaaacagaagaaggactacctggtgatatggaaggagaagaagaagctggcgatatgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aagcaggggaagaagctggtgatttggaagcaggggaagaaactggcgatttggaagcag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3016 ATCCATCGCCTGGAGCACCAGGAGCGCAGTTGTGACATCAGCAGGAGCGCCCAGGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gggaagaaactggcgatttggaagcaggggaagaagctggtgatttggaagcaggggaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2956 CGGAAGATCCTTCAGCTGGAGAACCAGGAGCGGCAGATGATCCGTCAGCTGGAGCGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1836 CGCCAGGAGCGCCAGTTGTGACATCAGCAGGAGAGCCAGGAGCAGCGGAAGATCCGTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ctgatggagcagaaaagtacatgttcctgctcaagaaaatgtacaacctgccgatagta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CATCAGCAGGAGAGCCAGGAGCAGCGGAAGATCCGTCAGCTGGAGCGCCAGGAGCGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tcgagccactattcgaacaaattgtggcgggtactgctaaacatgttacgggacaagaat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 4954;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 1; SEQ ID NO 10043; 21pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 4954 BP; 880 A; 1711 C; 1284 G; 1079 T; 0 other
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5.4%; Score 181.8; DB 23; 45.5%; Pred. No. 6e-21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Mismatches 1047;
                                                                                                                                                                                                                                                 Œ
                                                                                                                                                                                                                                                 Myers
                                                                                                                                                                                                                                                 PWD,
                                                                2000US-191637P.
2000US-0614150.
23-MAR-2001; 2001WO-US09231
                                                                                                                                                                                                                                             Ľ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                              WPI; 2001-656860/75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                         (PEKE ) PE CORP NY
                                                                                                                                                                                                                                                                                                                                                  P-PSDB; ABB61084
```

; 9 26

Mon

```
1995
                                                                                                                                                                                                                                                                                                                                                          2246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1698
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1712
                                                                                                                                                                                                                                                  actgcagaaggagaaacagaaggaaacgtagaggagaagaaacagaagaagctgcagaag 1278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1531 GGGAAGATCCTTCAG---CTGGAGAACCAGGAGGGGCAGATGATCCATCGCCTGGAGCAC 1475
                                                                                                                                                                                                                                                                                                                        gagaagtatcagaagaaactccagaaggagaaagaagagttagaggcaactccagaggatg 1338
                                                                                                                                                                                                                                                                                                                                                                                                                              2245 CAGCTGGAGAACCAGGAGCGGCAGATGATCCATCGGCTGGAGCACCAGGAGCGCGCAGTTG 2186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1711 GAGCGCCAGGAGCGGCAGATGATCCATCAGCTGGAGCGCCCAGGAGCGGCAGTTGTGACAT 1652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATCCATCGGCTGGAGCACCAGGAGCGGCAGTTGTGACATCAGCAGGAGCGCCAGGAGCAG
2596 CAGCGGAAGATCCT----TCAGCTGGAGAACCAGGAGCGGCAGATGATCCATCGGCTG
                                                           GAGCACCAGGAGCGGCAGTTGTGACATCAGCAGGAGAGCCAGGAGCAGCAGGAAGATCCGT
                                                                                                                                        2482 CAGCATCAGCAGGAGACCAGGAGCGAGGAGGATCCGTCAGCTGGAGCGCCAGGAGCGG
                                                                                                                                                                               2363 GGAGCAGCGGAAGATCCGTCAG--CTGGAGCGCCAGGAGCGGCAGATGATCCATCGGCTG
                                                                                                                                                                                                                                                                                                                                                                                           atttcgcattagatggaactacattagaagaaaccgaagaaagtggagaagaaaa atttcgcattagatgagagaaaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGACATCAGCAGGAGGCAGGAGCAGCGGAAGATCCGTCAGCTGGAGCGCCAGGAGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      aaggagaagaagagttagaggcaactccagaggatgacttccaattagaagaaccatcag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAGAAGATCCATCAGCTGGAGCGCCAGGAGCGGCAGTTGTGACATCAGCAGGAGAGCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GAGCAGCGGAAGATCCGTCAGCTGGAGCGCCAGGAGCGGCAGTTGTGACATCAGCAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     tcgctccaacggcagatgaaactttattcgttgatatcttagataacgatttaacgtatg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cagacattacatcctttgagccattatttaaacaaatcctcaaggatcctgatgcaggag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1891 AAGATCCTTCAGCTGGAGAACCAGGAGCGGCAGATGATCCATCGGCTGGAGCACCAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                aggc---tgtaacagtaccatcaaaggaagcacctgtacaagtaccagtggcagtagggc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1831 CGGCAGTTGTGACATCAGCAGGAGCCCCAGGAGCGGCAGATGATCCATCAGCTGGAGCGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ccgcgcaagaagtgccaacggaagaattgatgcaactccaagaggacgatttcgaattag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1771 CAGGAGCGCCAGTTGTGACATCAGCAGGAGCCAGGAGCAGCGGGAAGATCCGTCAGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            aaggaactgcagaagctccagaggaaggagaattagtattagaaggagaaggagcaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CAGCAGGAGAGCAGGAGCAGCGGAAGATCCGTCAGCTGGAGCGCCCAGGAGCGCCAGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     aggcaactccagaggacgatttcgaattagaagaaccaacaggagaagaagtagaagaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ccgtagagggcgaagaaactgcagaaggagaagaagtggaagaggtacctgcagaagtag
                                                                                                         tagaattagtattagatgaagaggcaactgaagaagaatcaacggaagtgggaccaacgg
                                                                                                                                                                                                                                                                                                                                                      GAGCACCAGGAGCGGCAGTTGTGACATCAGCAGGAGCCCCAGGAGCAGCAGGAAGATCCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                tgccagtagtggccgaaccggtagaagtagtgactcctgctcagcctgtcaaaccaatgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2005 AGCCAGGAGCAGCGGAAGATCCGTCAGCTGGAGCGCCAGGGGGGCGCAGATGATCCATCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1945 CTGGAGCACCAGGAG-----CGGCAGTTGTGACATCAGCAGGGGCGCCAGGAGCAGCGG
                                      aattagatgccactccagaggatgacttcgcattagatgttacagaatctcccgaggaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ccgtagaggagagaaaccgtagagggagaagaaccgtagagggagaagatgcag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cggaagaagaccaagaagaagagagccaacagaaggagaagtgccagaagaagtag
                                                                      2542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2065
                                   1039
                                                                                                     1099
                                                                                                                                                                            1159
                                                                                                                                                                                                                                                  1219
                                                                                                                                                                                                                                                                                                                                                        2305
                                                                                                                                                                                                                                                                                                                                                                                           1339
                                                                                                                                                                                                                                                                                                                                                                                                                                                               1399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1579
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1639
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
g
                                   ò
                                                                    g
                                                                                                  ò
                                                                                                                                 g
                                                                                                                                                                            õ
                                                                                                                                                                                                    g
                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                      ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ογ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
```

```
Ţ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  or more
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA sequences (ABL16175) and the encoded proteins
                                                                                                                                                                                                                                                                       1234 CGGAAGATCCGTCAGCTGGAGCGCCAGGAGCGGCAGATGATCCATCGGCTGGAGCACAG 1175
                                                                                                                        1474 CAGGAGCGGCAGTTGTGACATCAGCAGGAGGCCAGGAGCAGCGGAAGATCCGTCAGCTG
                                                                                       1414 GAGCGCCAGGAGCGGCAGATGATCCATCGGCTGGAGCACCAGGAGCGGCAGTTGTGACAT
                                                                                                                                                                                    2296 tggaagaagtagaagtagaggtaccagcggtagtagaagtagaagtaccagcggtag
                                                                                                                                                                                                                  1294 ATCCATCGGCTGGAGCACCAGGAGCGGCAGTTGTGACATCAGCAGGAGAGCCAGGAGGAG
                                                                                                                                                                                                                                                    tagaagaagaggtgccagaagaagtagaagaagaagaagaagaagaagaagaaccagtagagg
                                                             aagaagtacccgcagaagtagaagtggaagaggtaccagaagaagtggaagaggtac
 aagaagtggaagagtacctgcagaagtagaagaagtggaagaggtaccagaagaagtag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Drosophila melanogaster expressed polynucleotide SEQ ID NO 10040.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 developmental biology; cell signalling; insecticide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1000
and c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 1; SEQ ID NO 10040; 21pp + Sequence Listing; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ed nucleic acid detection reagent for detecting Drosophila and for elucidating cell signalling as
                                                                                                                                                                                                                                                                                                              2416 aagaagatgtattacaattagtaataccatcggaagaag 2454
                                                                                                                                                                                                                                                                                                                                          1174 GAGCGGCAGTTGTGACATCAGCAGGAGGCGGGGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Myers
                                                                                                                                                                                                                                                                                                                                                                                                                        standard; cDNA; 9516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PWD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000US-191637P.
2000US-0614150.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23-MAR-2001; 2001WO-US09231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ľ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Drosophila melanogaster
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               pharmaceutical; gene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (ABB57737-ABB72072).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Adams M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2001-656860/75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORP NY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   P-PSDB; ABB61083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200171042-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                genes from Dr
interactions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  isolated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       11-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Drosophila;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           27-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (PEKE ) PE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Venter JC,
                                                                                                                                                                                                                                                                                                                                                                                                                       ABL05186
                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABL05186;
                                                                                                                                                                                                                                                 2356
2116
                                                                                                                                                                                                                                                                                                                                                                                                        ABL05186,
                           qq
                                                            ò
                                                                                    Pp
                                                                                                                      δ
                                                                                                                                                     g
                                                                                                                                                                                    ò
                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                  ŏ
                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                          g
```

```
.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6848 GECAGTIGIGACATCAGCAGGAGGGCCAGGAGGGGCAGATGATCCATCAGCTGGAGCGCC 6789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                tocogaggaagtagaattagtattagatgaagaggcaactgaagaagaatcaacggaagt 1147
                                                                                                                                       6908 AGATCCTTCAGCTGGAGAACCAGGAGCGGCAGATGATCCATCGGCTGGAGCACCAGGAGC 6849
                                                                                                                                                                                                                                                                     aggggaagaaactggcgatttggaagcaggggaagaagctggaagatgcggaaactgaaga 730
                                                                                                                491 agatgatacggaaacagaagaagactacctggtgatatggaaggagaagaagagctgg 550
                                                                                                                                                                                                                                     AGCAGGAGCGCCAGGAGCAGCGGAAGATCCTTCAGCTGGAGAACCAGGAGCGGCAGATGA
                                                                                                                                                                                                                                                                                                                                                                         tagttcagctgatggagcagaaaagtacatgttcctgctcaagaaaatgtacaacctgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                6548 GGAAGATCCGTCAGCTGGAGCGCCAGGAGCGGCAGTTGTGACATCAGCAGGAGAGCCAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6488 AGCAGGAAGATCCGTCAGCTGGAGCGCCAGGAGGGCGGCAGATGATCCATCGGCTGGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gggaccaacggaaggaaggaccaaccgaagattegatgccactccagaggatggattteg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCAGGAGCAGCGGAAGATCCGTCAGCTGGAGCGCCAGGAGCGGCAGATGATCCATCAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      551 cgatatggaagcaggggaagaagctggtgatttggaagcaggggaagaaactggcgattt
                                                                                                                                                                                                                                                                                          AGCGCCAGGAGCGGCAGATGATCCATCGGCTGGAGCACCAGGAGCGGCAGTTGTGACATC
                                                                                                                                                                                                                                                                                                                                                                                                                            cgatagtaatgatgccctctttggaagtattttggataaagatatattttgatcatat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               acaagaattgcca---atgaaacctgtaccattaccagtggcagaagagcccgcgaagt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              accagoggaagaattagatgocactocagaggatgacttogoattagatgttacagaato
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGATCCATCGCCTGGAGCACCAGGAGCGGCAGTTGTGACATCAGCAGGAGA-GCCAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gaagctgcagaaggagaagtatcagaagaaactccagaaggagaagaag----agtt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          agaggcaactccagaggatgatttcgcattagatggaactacattagaagaaaccgaaga
                                                                                                                                                                                                                     ggaagcaggggaagaaactggcgatttggaagcaggggaagaagctggtgatttggaagc
                                                                                                                                                                                                                                                                                                                         taaagatttcgagccactattcgaacaaattgtggcgggtactgctaaacatgttacggg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6189 CAGCGGAAGATCCGTCAGCTGGAGCGCCAGGAGCTGGCAGTTGTGACATCAGCAGGAGAG
                                                                                       28;
                                                                Length 9516;
                          0 other;
                                                                                       Indels
                         BP; 2237 A; 2681 C; 2215 G; 2383 T;
                                                             Ouery Match 5.2%; Score 174; DB 23; Best Local Similarity 45.4%; Pred. No. 1.3e-19; Matches 917; Conservative 0; Mismatches 1075;
at ftp.wipo.int/pub/published_pct_sequences
                          Sequence
                                                                                                                                                                                                                                                                                             6728
                                                                                                                                                                                                                                                                                                                                               8999
                                                                                                                                                                                                                                                                                                                                                                                                  8099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6909
                                                                                                                                                                                                                                                                    671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1088
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1319
                                                                                                                                                                                                                   611
                                                                                                                                                                                                                                                                                                                        731
                                                                                                                                                                                                                                                                                                                                                                         791
SXC
                                                                                                                                      qq
                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                           9
9
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     oy ob
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9 6 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     o
O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                 ò
                                                                                                                                                               ò
                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                           õ
                                                                                                                                                                                                                                                                                                                     9
9
9
```

1912 2152 2206 1794 1852 2032 agagggagaagaagctgcagaaggagaagaagaagttagaggcaactccagaggatgactt 1498 1619 tcagcctgtcaaaccaatggtcgctccaacggcagatgaaactttattcgttgatatctt GCTGGAGCACCAGGAGCGCAGTTGTGACATCAGCAGGAGCGCCCAGGAGCAGCAGGAAGA agaagaagaagaagaaccagtagaggaagaagatgtattacaattagtaataccatc 5949 TGTGACATCAGCAGGAGGCCAGGAGCAGCGGAAGATCCGTCAGCTGGAGCGCCCAGGAGC aggagaagcgttagtagcagtgccagtagtggccgaaccggtagaagtagtgactcctgc 5829 AGGAGCAGCGGAAGATCCGTCAGCTGGAGCGCGAGGAGCGGCAGATGATCCATCGCCTCG 5769 AGCACCAGGAGCGGCAGTTGTGTACATCAGCAGGAGCGCCAGGAGCGGAGCGTTC agataacgatttaacgtatgcagacattacatcctttgagccattatttaaacaaatcct AGCTGGAGAACCAGGAGGGGGAGATGATCCATCGGCTGGAGCACCAGGAGCGGCAGTTGT caaggatcctgatgcaggaggctgtaacagtaccatcaaaggaagcacctgtac------aagtaccagtggcagtagggccgcgcgcaagaagtgccaacgtgcaact 5589 AGAAGATCCATCAGCTGGAGCGCCAGGAGCGGCAGTTGTGACATCAGCAGGAGAGCCAGG AGCAGCGGAAGATCCGTCAGCTGGAGCGCCCAGGAGCGCGCAGTTGTGACATCAGCAGGAGA 1913 attagaaggagaaggagaaccaacggaagaagagccaagagaaggagagccaacagaagg 5469 GCCAGGAGCAGCGGAAGATCCGTCAGCTGGAGCGCCAGGAGCGGCAGATGATCATCGGC agaagtgccagaagaattagaggcaactccagaggacgatttcgaattagaagaacc 5409 TGGAGCACCAGGAGCGGCAGTTGTGACATCAGCAGGAGCGCCCAGGAGCAGCGGAAGATCC 2033 aacaggagaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggagaagt 5349 TICAGCIGGAGAACCAGGAGGGCAGAIGAICCAICGGCIGGAGCACCAGGAGGGGCAGI ggaagaggtacctgcagaagtagaagaagtggaagaggtacctgcagaagtagaagt ggaagaggtaccagaaggaagtagaagggtacccgcagaagt----agaagaagtgga 5229 GCCAGTTGTGACATCAGCAGGAGCCAGGAGCAGCAGCAGGAAGATCCGTCAGCTGGAGCCCC agaggtaccagaagtggaagaggtaccagaagaagtggaagaggtaccagaagagt AGAGCCAGGAGCAGCGGAAGATCCGTCAGCTGGAGCGCCAGGAGCGGCAGATGATCCATC ggtagtagaagtaccagcggtagtagaagaagaagaggtgccagaagaagtagaaga TCCTTCAGCTGG----AGAACCAGGAGCGGCAGATGATCCATCGGCTGGAGCACCAGGAGC ggaagaagatatacaattagacaaaccaaagaaagacgaa 2486 4932 GGCAGTTGTGACATCAGCAGGAGAGCCAGGAGCAGCGGAA 4893 1499 1559 5709 1973 2093 2153 2207 2267 2387 Ω Qy Db g qq g do Oy Db 9 9 9 9 9 9 9 9 9 oy Oy Db Oy Q D Qy Db οy δ g ò ò

```
used in
                                                                                                                                                                                                                                          Ä
                                                                                                                                                                                                                                         Wind
                                                                                                                                                                                                                                                                                  Polypeptide(s) derived from Plasmidium falciparum antigen -vaccines and in production of antibodies, for diagnosis and therapy of malaria.
                                                                              Plasmodium falciparum; antigen; malaria; vaccine; GLURP;ss
                                                                                                                                                                                                                                         Vuust J, Rieneck K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 3095 BP; 1443 A; 300 C; 491 G; 861 T; 0 other;
                                                               Sequence encoding carboxylic terminal part of
                                                                                                             Location/Qualifiers
1..2352
                                                                                                                                                                                                                                                                                                                      Disclosure; Fig 7; 108pp; English.
                                                                                                                                                                                                                                         s,
               BP.
                                                                                                                                    /product=GLURP
                                                                                                                                                                                                                                          Jepsen
              AAQ03875 standard; DNA; 3095
                                                                                                                                                                                   89WO-0000218
                                                                                                                                                                                                 89US-0218885
89DK-0005191
                                              (first entry)
                                                                                                                             ď
                                                                                                                                                                                                                          (STAT-) STATENS SERUMINST
                                                                                                                             /*tag=
                                                                                                                                                                                                                                         Borre M,
                                                                                              Plasmodium falciparum.
                                                                                                                                                                                                                                                                WPI; 1990-115998/15.
P-PSDB; AAR05804.
                                                                                                                                                                                                                                                                                                                                                                                                                                          terminal 11%
                                              24 - AUG - 1990
                                                                                                                                                                                  18-SEP-1989;
                                                                                                                                                                                                  03-MAR-1989;
03-MAR-1989;
                                                                                                                                                                                                                                         uziegiel M,
Jakobsen PH:
                                                                                                                                                   WO9022811-A.
                                                                                                                                                                   22-MAR-1990
                              AAQ03875;
21
RESULT 2
AAQ03875
```

4. An open reading frame of 2349 bps extends from the 5' terminal end of the insert to a "TAA" stop codon. It is longest ORF found in the sequence. Sequence displays some of the characteristics of other malaria nucleic acid sequences: tandemly repeated motifs, high AT content and a corresponding preference for codons containing these bases, and a high content of codons for glutamate. Three major repetitive sequences are: one motif from bp 34 to bp 156 is repeated from bp 289 to bp 411; another motif from bp 577 to bp 521 is repeated from bp 174 to bp 1233 is repeated tandemly 11 times. This last repetitious region consists of 360bp repeated tandemly 11 times. This last repetitious region consists of 360bp repeats differing only in 3 bases GAT codding for aspartate. This region is flanked to the 5' terminal of a degenerated 60 bp repeat. GC content of the coding part of the insert is on average 30%, and of the non-coding ggtgatttggaagcaggggaagaaactggcgatttggaagcaggggaagaactggagat 716 gcggaaactgaagaaggagcaactggagatgcggaaactgaaaatggagcaactgtgtat 776 gaaaaaagcgagcatgaagcagctgaaaatgaagaaagtagtcttgaagaaggccatcat 75 gaaactggcgatttggaagcaggggaagaaactggcgatttggaagcaggggaagact gaagaaattgtacctgaacaaaataatgaagaatcaggtgaaagtaaattagttgataat 21; Length 3095; Indels DB 11; Pred. No. 2.4e-19; 0; Mismatches 1022; Score 171.8; Pred. No. 2.4 al Similarity 44.8%; 846; Conservative Query Match Best Local S: Matches 846; 597 16 717 657

셤

ò

g ò

à

```
gotcagoctgtcaaaccaatggtcgctccaacggcagatgaaactttattcgttgatatc 1676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ttagataacgatttaacgtatgcagacattacatcctttgagccattatttaaacaaatc 1736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ctcaaggatcctgatgcaggagaggctgtaacagtaccatcaaaggaagcacctgtacaa 1796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gtaccagtggcagtagggccggcgagaagtgccaacggaagaattgatgcaactccaa 1856
                                                                                                                                                                                                                                                                                                    aaacatgttacgggacaagaattgccaatgaaacctgtaccattaccagtggcagaagag 1016
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gaaacagaagaagctgcagaaggagagagtatcagaagaaactccagaaggagaagaagag 1316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gtagagggagaagaagctgcagaaggagaagaagagttagaggcaactccagaggatgac 1496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gaaggagaagcgttagtagcagtgccagtagtggccgaaccggtagaagtagtgactcct 1616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gaaccaaatcaaaataacgaatttcaagaaattaatgaagatgataaaagtgcacatatt 1137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cagcatgaaatagtagaagtagaagaagaatacttccagaagatgataaaaatgaaaagtt 1197
837 aatgtacaacctgccgatagtaatgatgccctctttggaagtattttggataaagatata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .137 tcaacggaagtgggaccaacggaagaagaaccaaccgaagaattagatgccactccagag
                                                                                                  196 gaattaaatgaaaatgaatttgttgaatctgacaaaagtgtaactgaacctgctgaacat
                                                                                                                                                                                   256 gaagaa----gttgtatctgaagaaagcaaccctgaaccagctgaaaatgaagaaagt
                                                                                                                                                                                                                         atttttgatcatattaaaagatttcgagccactattcgaacaaattgtggcgggtactgct
                                                                                                                                                                                                                                                               agtatagaagaagctcatcaggaagaaattgtacctgaacaaatgatgaagaatcaggt
                                                                                                                                                                                                                                                                                                                                              017 cccgcgcaagtaccagcggaagaattagatgccactccagaggatgacttcgcattagat
                                                                                                                                                                                                                                                                                                                                                                                                                            gaacctgatcaaaatgactctgaattaagtgaaaatgaattagttgaatcagaaaaagt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gtatctgaaccagctgaacatgtagaaattgtatcagaaaaaagtgtatctgaaccagct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      550 gaacacgtagaaattgtatctgaaaaaagtacatccgaa-----ccagctgaaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      600 tgtagaaagtgtatctgaacaaagtaataacgaaccatccga--aaagaaagatggacca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gttccttcaaaaaccatttgaagaaattgaaaaagtggatgttcaacctaaaattgtagac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ttagaggcaactccagaggatgatttcgcattagatggaactacattagaagaaaccgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            718 cttcaaataattgaacctaattttgttgactcacaaccaaatccacaagaaccagttgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gaaactgcagaaggaagaagaaaccgtagaggagaaaaaccgtagaggagaaaacc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            778 ccatcatttgtcaaaattgaaaaagttccttctgaagaaaataaaacatgcaagtgttgat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gtagacacagaagatagttcagctgatggagcagaaaaagtacatgttcctgctcaagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gatggatttcgcattagacgaaactgcagaaggagaaacagaagaaacgtagagggagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gaatcagttgaagaaattccagtaaatgaggatgaatttgaagatgttcacactgaacaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ttagatttagatcataaaacagttgatccagaaatagtagaagttgaagaaattccttca
                                                                                                                                                                                                                                                                                                      957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1138
                                                                                                                                                                                                                           897
                                                                                                                                                                                                                                                                                                                                                                                                                            430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         838
                    8
                                                          ò
                                                                                                  g
                                                                                                                                          ò
                                                                                                                                                                             Ω
                                                                                                                                                                                                                         Qγ
                                                                                                                                                                                                                                                          Db
                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                      Óλ
                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
```

```
Plasmodium falciparum; pre-erythrocyte; liver stage antigen; serum; prophylaxis; Thai strain; gene organisation; exon; intron; hydrophobic; glycosyl-phosphatidylinositol membrane anchoring sequence; antibody;
   gaacatgaaatagtagaagttgaagaaattctagcagaagataaaaaatgaaaaagtcaa 1257
                                                                                                              catgaaatagtagaagttgaagaaattctaccagaagataaaaatgaaaaaggtcaacat 1377
                                                                                                                                                                                                                                                                                        gtagaggttgaagaaattctaccagaagataaaaatgaaaaagttcaacatgaaatagta 1557
                                                                                                                                                                                                                                                                                                                                                                                                         gttgaagaaattctaccagaagaagataaaaatgaaaaaggtcaacatgaaatagtagag 1677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gttgaagaaattctaccagaagataaaaatgaaaagttcaacatgaaatagtagaggtt 1737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gaaattettecagaaattgttgaaattgaagaagtaceateacaaacaaataacaatgaa 1857
                                                                                                                                                                                                    ggagaagtagaagaaaccgtagagggcgaagaaactgcagaagg---agaagaagtg
                                                                                                                                                                                                                     gaantagtagaagttgaagaaattctaccagaagataaaaatgaaaagttgaacatgaa
                                                                                                                                                                                                                                                             gaagaggtacctgcagaagtagaagtggaagaggtacctgcagaagtagaagtg
                                                                                                                                                                                                                                                                                                                      gaagaggtaccagaagaagtagaagtacccgcagaagtagaagtagaagtg
                                                                                                                                                                                                                                                                                                                                                gaagttgaagaaattctaccagaagataaaaatgaaaaaggtcaacatgaaatagtagag
                                                                                                                                                                                                                                                                                                                                                                                                                                      gtaccagaagaagtggaagaagtggaagaagtagaagaagtagaagtaccagcggtagta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gaagtagaagtaccagcggtagtagaagaagaggtgccagaagaagtagaagaagaagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gaagaaattetaccagaagataaaaatgaaaaagtteaacatgaaatagtagaggttgaa
                                                        catgaaatagtagaggttgaagaaattctaccagaagatgataaaaatgaaaaaggtcaa
                                                                                    gaaygaagaagaaccaacggaagaagaagccaagagaagaagagccaacagaaggagaa
                                                                                                                                            gtgccagaagaagaattagaggcaactccagaggacgatttcgaattagaagaaccaaca
                                                                                                                                                                                                                                                                                                                                                                              ccagaagaagtggaaggtaccagaagtggaagaggtaccagaagaagtggaagag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gaagaagaaccagtagaagaagaagatgtattacaattagtaataccatcggaagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    falciparum liver stage antigen-3 coding sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gatatacaattagacaaaccaaagaaaga 2482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1858 aatattgaaactataaaaccagaagaaa 1886
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               vaccine; immunotherapy; malaria; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           95FR-0007007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                96WO-FR00894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CDNA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Plasmodium falciparum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (INSP ) INST PASTEUR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO9641877-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12-JUN-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         08-OCT-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   27-DEC-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAT78868;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAT78868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    22
                                                        1258
                                                                                   1917
                                                                                                                                                                      1378
                                                                                                                                                                                                                              1438
                                                                                                                                                                                                                                                                                      1498
                                                                                                                                                                                                                                                                                                                                                1558
                                                                                                                                                                                                                                                                                                                                                                                                         1618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2454
                                                                                                                                           1977
                                                                                                                                                                                                                                                          2094
                                                                                                                                                                                                                                                                                                                   2154
                                                                                                                                                                                                                                                                                                                                                                             2214
 1198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                           ò
                                                      9
                                                                          õ
                                                                                                        g
                                                                                                                                         õ
                                                                                                                                                               8
                                                                                                                                                                                          ς
δ
                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
```

```
4
                                                                                                                                                                                                                         This sequence corresponds to the coding sequence for a Plasmodium falciparum strain K1 pre-erythrocytic liver stage antigen-3 (LSA-3) protein. The gene sequence was isolated by screening a P. falciparum strain T9/36 library with scrum from a missionary treated by prophlaxis (for strain T6/36 see FR9101286). Of 20 clones isolated, clone 729s was used to screen a library generated from Thai strain K1. One clone contained a 6.85 kb insert including the genomic sequence AAT78867. The gene comprises a 1.8 kb region encoding 3 major blocks of 4 amino acid repeats and a 3' hydrophobic region corresponding to a glycosyl-phosphatidylinositol membrane anchoring sequence. The invention relates to new polypeptides of at least 10 amino acids derived from the LSA-3 polypeptide with the exception of the peptides AAM24791-4. The LSA-3 peptides can be used to raise antibodies and as vaccines for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gggtactgctaaacatgttacgggacaagaattgccaatgaaacctgtaccattaccagt 1006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   840 tccaactgttgaagaaatcgtagctccaagtgt---tgtagaaagtgtggctccaagtgt 896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tgaggaagtcaacgaaacgttagatggaggtgaatcattaggagagagtttccactgaaga 466
                                                                                                           Plasmodium falciparum poly:peptide(s) and related nucleic acids -derived from the liver stage antigen-3, useful for malaria vaccine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     tgaagaagtaaaggaaaaaattcttgacttattagaagaaggaaatacattaactgaaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             agaaagtatagcttcaagtgttgatgaaagtatagattcaagtattgaagaaaatgtagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            tgtagatgataataaaaaatttagaagaagccgaagatataaaggaaaatatcttattaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tatggaaggaagaagaagctggcgatatggaagcaggggaagaagctggtgatttgga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            taatatagaagaaccaaaagaaaatattattgacaatttattaaataatattggacaaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 agcagggaaagaaactggcgatttggaagcaggggaagaaactggcgatttggaagcagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ttcagaaaaacaagaaagtgtatcagaaaatgtacaagtcagtgatgaactttttaatga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ggaagaagctggtgatttggaagcaggggaagaaactggcgatttggaagcaggggaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     aactggagatgcggaaactgaagaaggagcaactggagatgcggaaactgaaaatggagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              agttaatgacgatattttaatagtttagtaaaaagtgttcaacaagaacaacaacaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         aactgtgtatgtagacacagaagatagttcagctgatggagcagaaaaagtacatgttcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tgttgaagaaaaagttgaagaaagtgtagaagaaaatgacgaagaaagtgtagaagaaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tyctcaagaaaatgtacaacctgccgatagtaatgatgccctctttggaagtattttgga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 taaagatataatttttgatcatattaaagatttcgagccactattcgaacaaattgtggc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 170.2; DB 18; Length
Pred. No. 4.9e-19;
0; Mismatches 1138; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 5361 BP; 2388 A; 431 C; 1169 G; 1373 T; 0 other;
                                                                                                                                                                                         Claim 20; Fig 2A-I; 69pp; French.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity 44.1%;
11; Conservative
                  á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      immunotherapy of malaria.
                  Druilhe
                                                                                                                                derived from the live
prodn. and diagnosis
                                                    WPI; 1997-065464/06.
                                                                       P-PSDB; AAW24790
                  Daubersies P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        911;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         726
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               887
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
```

```
1616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tgaagaagaatcaacggaagtgggaccaacggaagaaggaccaaccgaagaattagatgc 1186
                                                                                                                                                       tgaagaaatcgtagctccaactgttgaagaaatcgtagctccaactgttgaagaaattgt 1076
                                                                                                                                                                                                                                                                              tgaagaaagtgtagctgaaaatgttgaagaaagtgtagctgaaaaatgttgaagaaagtgt 1196
                                                                                                                                                                                                                                                                                                           agaagaagagttagaggcaactccagaggatgatttcgcattagatggaactacattaga 1366
                                                                                                                                                                                                                                                                                                                                                                       agaaaccgaagaaactgcagaaggagagaaccgtagagggagagaaaccgtagaggg 1426
                                                                                                                                                                                                                                                                                                                                                                                       1317 agctccaagtgttgtagaaagtgtggctccaagtgttgaagaaagtgtagaagaaaatgt 1376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ---agtgactcctgctcagcctgtcaaaccaatggtcgctccaacggcagatgaaacttt 1663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 attogttgatatottagataacgatttaacgtatgcagacattacatcctttgagccatt 1723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1617 tgtagaaagtgtggctccaagtgttgaagaaagtgtagaagaaaatgttgaagaaagtgt 1676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       agctgaaaatgttgaagaaagtgtagctgaaaatgttgaagaaagtgtagctgaaaatgt 1736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 agaattagtattagaaggagaaggagaaccaacggaagaagaccaagagaaggagagcc 1963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             aacagaaggagaagtgccagaagaagaattagaggcaactccagaggacgatttcgaatt 2023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tgaagaaagtgtagctgaaaatgttgaagaaatcgtagctccaactgttgaagaaatcgt 1796
                                                                                                                                                                                                                                                                                                                                                                                                                                  ggcagaagagcccgcgcaagtaccagcggaagaattagatgccactccagaggatgactt
                                                             cgcattagatgttacagaatctcccgaggaagtagaattagtattagatgaagaggcaac
                                                                                          agctgaaaatgttgaagaaagtgtagctgaaaatgttgaagaaagtgtagctgaaaatgt
                                                                                                                                                                                  cactccagaggatggatttcgcattagacgaaactgcagaaggagaaacagaaacgt
                                                                                                                                                                                                                   agctccaagtgttgtagaaagtgtggctccaagtgttgaagaaagtgtagaagaaatgt
                                                                                                                                                                                                                                                agagggagaagaagaagaagctgcagaaggagaagtatcagaagaaactccagaagg
                                                                                                                                                                                                                                                                                                                             agaggatgacttccaattagaagaaccatcaggaqaaggagaaggggaaggaggaggaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          aggggaaggaaggagaagcgttagtagcagtgccagtagtggccgaaccggtagaagt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       agctgaaaatgttgaagaaagtgtagctgaaaatgttgaagaaagtgtagctgaaaatgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       agctccaactgttgaagaaatcgtagctccaactgttgaagaaattgtagctccaagtgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             atttaaacaaatcctcaaggatcctgatgcaggagagggtgtaacagtaccatcaaagga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        agcacctgtacaagtaccagtggcagtagggcccgcgcaagaagtgccaacggaagaatt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gatgcaactccaagaggacgatttcgaattagaaggaactgcagaagctccagaggaagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              agctccaactgttgaagaaattgtagctccaagtgttgtaga----aagtgtggctcc
                             897 tgaagaaagtgtagaagaaaatgttgaagaaagtgtagctgaaaatgttgaagaaagtgt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1844
1001
                                                           1067
                                                                                                                     1127
                                                                                                                                                     1017
                                                                                                                                                                                  1187
                                                                                                                                                                                                                                                1247
                                                                                                                                                                                                                                                                             1137
                                                                                                                                                                                                                                                                                                          1307
                                                                                                                                                                                                                                                                                                                                       1197
                                                                                                                                                                                                                                                                                                                                                                     1367
                                                                                                                                                                                                                                                                                                                                                                                                  1257
                                                                                                                                                                                                                                                                                                                                                                                                                                 1427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1851
                                                                                       957
                                                                                                                                                  qq
                                                                                                                                                                                                       QQ
                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                         <u>ک</u> و
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
ò
                                                                                q
                                                                                                                    ò
                                                                                                                                                                          ò
                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                         QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ζ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                           ò
```

```
Plasmodium falciparum; pre-erythrocyte; liver stage antigen; serum; prophylaxis; Thai strain; gene organisation; exon; intron; hydrophobic; glycosyl-phosphatidylinositol membrane anchoring sequence; antibody; vaccine; immunotherapy; malaria; ds.
2084 agaagaagtggaagaggtacctgcagaagtagaagagagtggaagaggtacctgcagaagt 2143
                                                                                                                            aagtgtggctccaagtgttgaagaaagtgtagaagaaatgttgaagaaagtgtagctga
                                                                              ggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaaga
                                                                                                                                                                          aactgttgaagaaattgtagctccaagtgttgtagaaagtgtggctccaagtgttgaaga
                                       agaagaagtggaaggtaccagaagaagtagaaggtacccgcagaagtagaagt
                                                                                               aaatgttgaagaaagtgtagctgaaaatgttgaagaaagtgtagctgaaaatgttgaaga
                                                                                                                   agtggaagaggtaccagaagaagtggaagaagtggaagaagtagaagtagaggtacc
                                                                                                                                                                                                                                                                                                                                                             falciparum liver stage antigen-3 genomic sequence.
                                                                                                                                                                                                                                  2444 atcggaagaagatatacaattagacaa 2470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               stage
                                                                                                                                                                                                                                                     2331 aaatgttgaagaaagtgtagctgaaaa 2357
                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
77..5605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /product= liver
77..274
                                                                                                                                                                                                                                                                                                     ВР
                                                                                                                                                                                                                                                                                                     6152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             95FR-0007007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /number= 1
275..442
/*tag= c
/number= 1
443..5602
/*tag= d
/number= 2
                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /*tag= b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ė,
                                                                                                                                                                                                                                                                                                    AAT78867 standard; DNA;
                                                                                                                                                                                                                                                                                                                                                                                                                              Plasmodium falciparum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INSP ) INST PASTEUR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Daubersies P,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    409641877-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              13-JUN-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12-JUN-1996;
                                                                                                                                                                                                                                                                                                                                         08-OCT-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       27-DEC-1996
                                                                                                                                                                                                                                                                                                                      AAT78867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    intron
                                                                                                                                                                                                                                                                                  23
                                                                                              2091
                                                                                                                                                                                                               2271
                                      2144
                                                       2031
                                                                           2204
                                                                                                                                    2151
                                                                                                                                                       2324
                                                                                                                                                                                            2384
                                                                                                                 2264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        exon
                                                                                                                                                                                                                                                                                  RESULT 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Key
                 g
                                      ŏ
                                                      g
                                                                          οy
                                                                                             OD
                                                                                                                 δy
                                                                                                                                g
                                                                                                                                                      QΥ
                                                                                                                                                                        g
                                                                                                                                                                                            ò
                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                   g
```

WPI; 1997-065464/06

Plasmodium falciparum poly:peptide(s) and related nucleic acids - derived from the liver stage antigen-3, useful for malaria vaccine prodn. and diagnosis

Fig 1A-E; 69pp; French Claim 20;

falciparum strain KI pre-erythmosytic liver stage antigen-3 (LSA-3) protein (AMM24790). The gene sequence was isolated by screening a reated by prophylaxis (for strain 79/96 library with the serum from a missionary treated by prophylaxis (for strain 76/96 see FR9101286). Of 20 clones isolated, clone 7295 was used to screen a library generated from Thai strain KI. One clone contained a 6.85 kb insert including the sequence presented here. The gene organisation comprises a first exon, a short of a mino acid repeats and a 3' hydrophobic region encoding sequence. The invention relates to new polypeptides of at least 10 sequence. The invention relates to new polypeptides of at least 10 mino acids derived from the LSA-3 polypeptide with the exception of peptides AAMX4791-4. The LSA-3 peptides can be used to raise antibodies and as vaccines for immunotherapy of malaria. sequence corresponds to the genomic sequence encoding a Plasmodium 

Sequence 6152 BP; 2725 A; 463 C; 1215 G; 1749 T; 0 other;

٠. 1141 tgaagaaagtgtagaagaaatgttgaagaaagtgtagctgaaaatgttgaagaaagtgt 1200 646 992 tgctcaagaaaatgtacaacctgccgatagtaatgatgccctctttggaagtattttgga 886 tgaggaagtcaacgaaacgttagatggaggtgaatcattaggagagagtttccactgaaga 466 Gaps tgaagaagtaaaggaaaaaattcttgacttattagaagaaggaaatacattaactgaaag aactggagatgcggaaactgaaggaagcaactggagatgcggaaactgaaaatggagc tatggaaacagaagatggctcaacagatgatacggaaacagaaggaactacctggtga agcaggggaagaaactggcgatttggaagcaggggaagaaactggcgatttggaagcagg ttcagaaaaaaaaaagtgtatcagaaatgtacaagtcagtgatgaactttttaatga ggaagaagctggtgatttggaagcaggggaagaaactggcgatttggaagcaggggaaga agttaatgacgatattttaatagtttagtaaaaagtgttcaacaagaacaacacaa aactgtgtatgtagacacagaagatagttcagctgatggagcagaaaaagtacatgttcc tgttgaagaaaaagttgaagaaagtgtagaagaaaatgacgaagaaagtgtagaagaaaa tgtagaagaaaatgtagaa----gaaaatgacgacggaagtgtagcctcaagtgttga taaagatataatttttgatcatattaaagatttcgagccactattcgaacaaattgtggc gggtactgctaaacatgttacgggacaagaattgccaatgaaacctgtaccattaccagt ggcagaagagccgcgcaagtaccagcggaagaattagatgccactccagaggatgactt tgtagatgataataaaaatttagaagaagccgaagatataaaggaaaatatcttattaag taatatagaagaaccaaaagaaaatattattgacaatttattaaataatattggacaaaa tccaactgttgaagaaatcgtagctccaagtgt---tgtagaaagtgtggctccaagtgt tatggaaggaagaagaagctggcgatatggaagcaggggaagaagctggtgatttgga 18; Length 6152; Indels DB 18; Pred. No. 5e-19; 0; Mismatches 1138; Score 170.2; 5.18; Query Match
Best Local Similarity 44.1
Matches 911; Conservative 550 610 887 1024 767 407 467 527 670 587 707 910 827 970 8 οp 8 9 9 g õ 9 ò 9 ö g ò g 8 ò 음 ò ò ò ò

2023 tgaagaaatcgtagctccaactgttgaagaaatcgtagctccaactgttgaagaaattgt 1320 agctccaagtgttgtagaaagtgtggctccaagtgttgaagaaagtgtagaagaaatgt 1380 agagggagaagaaacagaagaagctgcagaaggagagagtatcagaagaaactccagaagg 1306 1441 agctgaaaatgttgaagaaagtgtagctgaaaatgttgaagaaagtgtagctgaaaatgt 1500 agaaaccgaagaaactgcagaaggagaaaaccgtagaggagagaagaaaccgtagaggg 1426 agaggatgacttccaattagaagaaccatcaggagaaggagaaaggggaaggagaaggaga 1546 1621 tgaagaaagtgtagctgaaaatgttgaagaaagtgtagctgaaaatgttgaagaaagtgt 1680 1741 tgaagaaagtgtagctgaaaatgttgaagaaagtgtagctgaaaatgttgaagaagtcgt 1800 1861 tgtagaaagtgtggctccaagtgttgaagaaagtgtagaagaaagtgttgaagaaagtgt 1920 agcacctgtacaagtaccagtggcagtaggcccgcgcaagaagtgccaacggaagaatt 1843 1921 agctgaaaatgttgaagaaagtgtagctgaaaatgttgaagaaagtgtagctgaaaatgt 1980 gatgcaactccaagaagacgatttcgaattagaaggaactgcagaagctccagaggaagg 1903 agaattagtattagaaaggagaaggagaaccaacggaagaagaagagccaagagagagagcc 1963 2154 cgcattagatgttacagaatctcccgaggaagtagaattagtattagatgaagaggcaac 1126 agaagaagagttagaggcaactccagaggatgatttcgcattagatggaactacattaga agaagaaaccgtagaggagaagaagctgcagaaggagaagaagagttagaggcaactcc aggggaaggaggagaagcgttagtagcagtgccagtagtggccgaaccggtagaagt attogttgatatottagataacgatttaacgtatgcagacattacatcctttgagccatt 1801 agctccaactgttgaagaaatcgtagctccaactgttgaagaaattgtagctccaagtgt 1981 tgaaqaaaqtqtagctgaaaatgttgaagaaatcgtagctccaactgttgaagaaatcgt aacagaaggagaagtgccagaagaagtaattagaggcaactccagaggacgatttcgaatt 2095 aagtgttgaagaaagtgtagaagaaaatgttgaagaaagtgtagctgaaaatgttgaaga agaagaaccaacaggagaagaagtagaagaaaccgtagagggcgaagaaactgcagaagg aagtgtagctgaaaatgttgaagaaagtgtagctgaaaatgttgaagaaatcgtagctcc agaagaagtggaagaggtacctgcagaagtagaagaagtggaagaggtacctgcagaagt 1381 tgaagaaagtgtagctgaaaatgttgaagaaagtgtagctgaaaatgttgaagaaagtgt 1501 tgaagaaatcgtagctccaactgttgaagaaatcgtagctccaactgttgaagaaattgt ---agtgactcctgctcagcctgtcaaaccaatggtcgctccaacggcagatgaaacttt 2041 agctccaactgttgaagaaattgtagctccaagtgttgtaga-----aagtgtggctcc 1201 agctgaaaatgttgaagaaagtgtagctgaaaatgttgaagaaagtgtagctgaaaatgt 1724 atttaaacaaatcctcaaggatcctgatgcaggaggggtgtaacagtaccatcaaagga cactccagaggatggatttcgcattagacgaaactgcagaaggagaaacagaaggaaacgt 2024 2215 1561 1487 1321 1367 1547 1681 1904 1067 1261 1247 1307 1427 1187 g 8 qq QQ ò g QQ ò g g ò g õ Db g ò g ò g ò οq ò g οy g ò g ογ g ò ò δý ò ò ò õ

32

```
This invention describes novel nucleic acids (I; designated LOBO (long bones)) encoding proteins influencing bone development in mammals. The proteins of the invention reduce and/or inactivate bone extension (i.e. development), with exception of the skull and have osteopathic activity. The nucleic acid molecules, proteins and antibodies can be used in diagnostic or pharmaceutical compounds e.g. for gene therapy. The methods and nucleic acid molecules, etc. are useful for production of transgenic animals, especially a transgenic mouse for the study of diseases associated with bone development, e.g. spondyloepiphysal dysplasia and achondroplasia. This sequence encodes the murine LOBO protein described
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LOBO; long bones; bone development; bone extension; skull; osteopathic; diagnostic; pharmaceutical; gene therapy; transgenic animal; disease; spondyloepiphysal dysplasia; achondroplasia; murine; ds.
2144 agaagaagtggaagaggtaccagaagaagtagaagaaggtacccgcagaagtagaagagt 2203
                                                                                                                              2323
                                                                                                                                                              2454
                                                                                                                                                                                              2383
                                                                                                                                                                                                                          aactgttgaagaaattgtagctccaagtgttgtagaaagtgtgggctccaagtgttgaaga 2514
                                                                                                                                                                                                                                                                                          agcggtagtagaagtagaagtaccagcggtagtagtagaagaagaggtgccagaagaagtaga
                               aagtgtggctccaagtgttgaagaaagtgtagaagaaaatgttgaagaaagtgtagctga
                                                               ggaagaggtaccagaaggaagtggaagggtaccagaagaagtggaagggtaccagaaga
                                                                                  agtggaagaggtaccagaaggaagtggaagaagtggaagaagtagaagtagaggtacc
                                                                                                                                                              aagtgtagctgaaaatgttgaagaaatcgtagctccaactgttgaagaaatcgtagctcc
                                                                                                                                                                                                                                                            agaagaagaagaagaagaaccagtagaggaagaagatgtattacaattagtaatacc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nucleic acids encoding proteins which influence bone development, useful for treating and studying bone disorders \cdot
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Wirth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Aigner T,
                                                                                                                                                                                                                                                                                                                       2444 atcggaagaagatatacaattagacaa 2470
                                                                                                                                                                                                                                                                                                                                           Example 3; Page 69-97; 391pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Murine LOBO genomic DNA fragment 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                      ВР
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       in the method of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hess J,
                                                                                                                                                                                                                                                                                                                                                                                                                                   AAZ23891 standard; DNA; 49999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99WO-EP02055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            98DE-1013799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rosenthal A, Rump A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (ROSE/) ROSENTHAL A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VPI; 1999-601320/51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               W09950284-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27-MAR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   25-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             07-OCT-1999.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAZ23891;
                                                                                                                                                                                                                                                       2384
                              2275
                                                              2204
                                                                                                                              2264
                                                                                                                                                          2395
                                                                                                                                                                                          2324
                                                                                                                                                                                                                         2455
                                                                                                                                                                                                                                                                                         2515
                                                                                                                                                                                                                                                                                                                                                                                                                     AAZ23891
                                                                                                                                                                                                                                                                                                                                                                                                      RESULT
                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                     ò
ò
                              g
                                                              à
                                                                                       a
                                                                                                                          Ω
                                                                                                                                                       8
                                                                                                                                                                                       οŽ
```

Sequence 49999 BP; 13210 A; 11814 C; 10825 G; 14150 T; 0 other;

```
1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LOBO; long bones; bone development; bone extension; skull; osteopathic; diagnostic; pharmaceutical; gene therapy; transgenic animal; disease; spondyloepiphysal dysplasia; achondroplasia; murine; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This invention describes novel nucleic acids (1; designated LOBO (long bones)) encoding proteins influencing bone development in mammals. The proteins of the invention reduce and/or inactivate bone extension (i.e.
                                                                                                                                                                                                                                                                                                        2154 gaagaggtaccagaagaagtagaaggtacccgcagaagtagaagaagtggaagaggta
                                                                                                                                                                                                                              gaagaggtacctgcagaagtagaagtggaagaggtacctgcagaagtagaagtg
                                                                                                                             2034 acaggagaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggagaagtg
                                                                                                                                                                             2214 ccagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaaga-
                                                                                                                                                                                                                                                        -ggtaccagaagaagtggaagaagtggaagaagtagaagtagaagtagaggtaccagcggtag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nucleic acids encoding proteins which influence bone development, useful for treating and studying bone disorders -
                          5
  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ŧ
  DB 20;
Score 169.4; DB 20;
Pred. No. 9.5e-19;
); Mismatches 131;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Wirth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Murine LOBO homologue genomic DNA fragment 2.
                                                                                                                                                                                                                                                                                                                                                         2392 aagaagaagaagaaccagtagaggaagaagatg 2424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Aigner T,
                                                                                                                                                                                                                                                                                                                                                                       Example 3; Page 161-189; 391pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                BP
                          .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hess J,
                                                                                                                                                                                                                                                                                                                                                                                                                                               AAZ23896 standard; DNA; 49999
 5.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99WO-EP02055.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   98DE-1013799.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rosenthal A, Rump A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (ROSE/) ROSENTHAL A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1999-601320/51.
 Query Match
Best Local Similarity
Matches 260; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         W09950284-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           26-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27-MAR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25-JAN-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  07-0CT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAZ23896;
                                                                                                                                                                                                                                                                                                                                                                                                                       25
                                                                                                    2094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                   AAZ23896
                                                                                                    ŏ
                                                                                                                            g
                                                                                                                                                    ò
                                                                                                                                                                          Dp
                                                                                                                                                                                                      ò
                                                                                                                                                                                                                           Op
                                                                                                                                                                                                                                                       ŏ
                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                g
```

```
11-SEP-1984;
10-SEP-1985;
                                                                                                                                                                                                                                           falciparum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local
        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                             1;
development), with exception of the skull and have osteopathic activity. The nucleic acid molecules, proteins and antibodies can be used in diagnostic or pharmaceutical compounds e.g. for gene therapy. The methods and nucleic acid molecules, etc. are useful for production of transgenic animals, especially a transgenic mouse for the study of diseases achondroplasia. This sequence encodes the murine LOBO protein described in the method of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                              2; Gaps
                                                                                                                                                                                                                                                                                                               2034 acaggagaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggagaagtg
                                                                                                                                                                                                                                                                                                                                                    2214 ccagaagaagtggaagagtaccagaagaagtggaagaggtaccagaagagtggaaga-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gaagaagaaggaggaggaggaggaggaggaggggggggaagaagaagaagaagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -ggtaccagaagaagtggaagtggaagtagaagtagaagtagaagtagaggtaccagcggtag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tagnagtagnagtaccagcggtagtagnagnagnaggtgccagnagnagtagnagnagnag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gaagaggtaccagaagaagtagaagaggtacccgcagaagtagaagtggaaggtg
                                                                                                                                                                                                                                       DB 20; Length 49999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence encoding the ring-infected Erythrocyte Surface Antigen (RESA).
                                                                                                                                                                             Sequence 49999 BP; 13135 A; 11787 C; 10868 G; 14209 T; 0 other;
                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                     Score 169.4; DB 20;
Pred. No. 9.5e-19;
0; Mismatches 131;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
801..995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Malaria vaccine; antigen; epitope;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     вр
                                                                                                                                                                                                                                       5.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAN60472 standard; DNA; 4590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      85WO-0006960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        84AU-0007067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1199..4225
/*tag= b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                     Query Match
Best Local Similarity 66.23
Matches 260; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /*tag=
1199..42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  falciparum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11-SEP-1984;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   11-SEP-1985;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24-AUG-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO8601802-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Plasmodium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               27-MAR-1986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAN60472;
                                                                                                                                                                                                                                                                                                                                                                                                                                9425
                                                                                                                                                                                                                                                                                                                                                                                            2094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAN60472

IID AAN6

AAC AAN6

XXX

XXX

24-A

XXX

BDE Segu

BDE (RESS

XXX

XXX

BDE (RESS

BDE (RESS

XXX

BDE (RESS

ABO

B
    8888888888
                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
```

```
The inventors claim a novel DNA molecule which comprises a nucleotide sequence corresp. to all or a portion of the base sequence coding RESA (AAN60472) or FIRAA (AAN60473). RESA and FIRA have antiquencity suitable for providing protective immunity against Plasmodium falciparum malarial infections.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2024
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4112 gaagaaaatgtagaagaaaatgtagaagagaatgttgaagagaatgttgaagagaatgtt 4171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4172 gaagaatatgatgaagaaaatgttgaagaacacaatgaagaataatgatgaataaaaaaa 4231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2145 gaagaagtggaagaggtaccagaagaagtagaagaaggtacccgcagaagtagaagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3932 aatgitgaagaaaatgitgaagaaaatgitgaagaaaatgiagaagaaaatgtagaagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2205 gaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2322 ccagcggtagtagaagtagaagtaccagcggtagtagaagaagaaggtgccagaagaagta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2382 gaagaagaagaagaaggaagaaccagtagaggaagaagaagtattacaattagtaata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3752 gaagaaaatgtagaacatgatgctgaagaaaatgtagaacatgatgctgaagaaaatgta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2085 gaagaagtggaagaggtacctgcagaagtagaagaagtggaagaggtacctgcagaagta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2265 gtggaag---aggtaccagaagaagtggaagaagtggaagaagtagaagtagaagta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1965 acagaaggagaagtgccagaagaagaattagaggcaactccagaggacgatttcgaatta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gaagaaccaacaggagaagaagtagaagaaaccgtagagggcgaagaaactgcagaagga
                                                                                                                AF;
                                                                                                                                                                                                                                                   of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .,
G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 4590;
                                                                                                                Cowman
                                                                                                                                                                                                                            n antigens - expressing
of RESA or FIRA antigens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Mismatches 327; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 4590 BP; 1933 A; 437 C; 673 G; 1547 T; 0 other;
                                                                                                                RB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 168.8; DB 7;
Pred. No. 8.1e-19;
                                                                                                                Saint
                                                                                                                Ġ
                                                                                                                Brown
                                                                                                                                                                                                                         DNA coding for Plasmodium falciparum poly:peptide(s) having antigenicity o
                                                                                                              RL,
                                                                                                                                                                                                                                                                                                                Claim 4; Fig 1; 55pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5.18;
84AU-0007066.
85AU-0047326.
                                                                   (HALL-) HALL INST MED RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 378; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                           Kemp DJ, Anders R,
                                                                                                                                                        WPI; 1986-094065/14
                                                                                                                                                                               P-PSDB; AAP60569
```

ä

us-09-667-130-1\_1.rng

```
δy
                                         a
                                                             ŏ
                                                                                g
                                                                                                     Qγ
                                                                                                                        셤
                                                                                                                                             ŏ
                                                                                                                                                               q
                                                                                                                                                                                                                                       ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1;
                                                                                                                                                                                                                                                                                                                                                                                                       Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gaagaaccaacaggagaagaagtagaagaaaccgtagagggcgaagaaactgcagaagga 2084
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1965 acagaaggagaagtgccagaagaagaattagaggcaactccagaggacgatttcgaatta 2024
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gaattagtattagaaaggagagagagaccaacggaagaagaagagccaagagagagagagcca 1964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 186
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gaaacacctgtagttgaagaagaaatgatagaagaaacacctgtagttgaagaagaatg 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gaagaaatgatagaagaaactcctgtagttgaagaagtagtagaagaaacaccagtagtt 306
                                                                                                                                                                                                                                                                                                                                                                                                  AAQ87587-89 encode polypeptides having a whole or partial epitope of structural protein of Leucocytozoan protozoa (see AAR70491-93). The polypeptides and DNA encoding them are useful in the production of vaccines for the treatment of leucocytozoanosis of fowl.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99
                                                                                                                                                  leucocytozoan protozoa; structural protein; epitope; vaccine; fowl; leucocytozoanosis; treatment; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gaagaagtggaagaggtacctgcagaagtagaagaagtggaaggaggtacctgcagaagta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7 ggaccagtagttgaagaagttgttgaagaaacaccagtagttgaagaagaaatggtagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gatgtagtagaagaaactaatgtagttgaagaagtagtagaagaagaaacaccagtagttgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gaagaagtggaagaggtaccagaagaagtagaaggtacccgcagaagtagaagt-
                                                                                                                                 DNA encoding Leucocytozoan protozoa structural protein epitope.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         э;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5.0%; Score 168.4; DB 16; Length 585; 56.9%; Pred. No. 6.7e-19;
                                                                                                                                                                                                                                                                                                                                        Immune inducing polypeptide against Leucocytozoan protozoa - in production of vaccines for treatment of leucocytozoanosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Mismatches 246; Indels
Sequence 585 BP; 267 A; 57 C; 155 G; 106 T; 0 other;
                                                                                                                                                                                                                                                                                      DOBUTSUYO SEIBUTSUGAKUTEKI SEIZAI KYOKAI.
NISSEIKEN KK.
                                                                                                                                                                                                                                                                                                                                                                                Claim 1; Page 16; 20pp; Japanese.
                                                                      BP
                                                                      AAQ87589 standard; DNA; 585
                                                                                                                                                                                                                                               93JP-0226078
                                                                                                                                                                                                                                                                   93JP-0226078
                                                                                                              (first entry)
                                                                                                                                                                                    Leucocytozoan protozoa sp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                     WPI; 1995-167252/22.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                      JP07089995-A.
                                                                                                                                                                                                                                               10-SEP-1993;
                                                                                                                                                                                                                                                                   10-SEP-1993;
                                                                                                             19-DEC-1995
                                                                                                                                                                                                                           04-APR-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best'Local Sim
Matches 329;
                                                                                        AAQ87589;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                     (DOBU-)
                                                                                                                                                                                                                                                                                                  (NISS-)
                                                  27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2085
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2204
                                                             AAQ87589
                                                  RESULT
ŏ
                    g
                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  õ
```

```
2381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAQ87587-89 encode polypeptides having a whole or partial epitope of structural protein of Leucocytozoan protozoa (see AAR70491-93). The polypeptides and DNA encoding them are useful in the production of vacchies for the treatment of leucocytozoanosis of fowl.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Immune inducing polypeptide against Leucocytozoan protozoa - useful in production of vaccines for treatment of leucocytozoanosis in fowl.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             leucocytozoan protozoa; structural protein; epitope; vaccine; fowl;
leucocytozoanosis; treatment; ss.
                                                                                                                                                                                                                                              2382 gaagaagaagaagaagaagaaccagtagaggaagaagatgtattacaattagtaata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             307 gaagaagttgtagaagaaacaccagtagtggaagaagaaatggtagaagaagcacca
                                                                                             367 gtagtggaagaagatgtagtagaagaaacaccagtagttgaagaagaagttgttgaagaa
                                                                                                                                                                           487 gaagaaacaccagtagttgaagaaaaagtagtagaagaaacaccagtagtggaagaaaa
                                            2262 gaagtggaagaggtaccagaagtagaagtggaagtggaagtagaagtagaagtagaggta
                                                                                                                                                 2322 ccagcggtagtagaagtagaagtaccagcggtagtagaagaagaggtgccagaagaagta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .,
S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DNA encoding Leucocytozoan protozoa structural protein epitope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5.0%; Score 168.4; DB 16; Length 996; ilarity 56.9%; Pred. No. 7.3e-19; Conservative 0; Mismatches 246; Indels 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 996 BP; 500 A; 94 C; 221 G; 181 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (DOBU-) DOBUTSUYO SEIBUTSUGAKUTEKI SEIZAI KYOKAI.
(NISS-) NISSEIKEN KK.
                                                                                                                                                                                                                                                                                                                                                 2442 ccatcggaagaagatatacaattagacaaaccaaagaa 2479
                                                                                                                                                                                                                                                                                                                                                                              Claim 1; Page 14-15; 20pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             standard; DNA; 996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       93JP-0226078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      93JP-0226078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Leucocytozoan protozoa sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 1995-167252/22.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity
Matches 329; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JP07089995-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    10-SEP-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10-SEP-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          19-DEC-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAQ87588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAQ87588;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAQ87588
```

ä

35

```
Stably transfecting eukaryotic cells with at least one episome for the production of a desired protein in vitro and for gene therapy -
 gaagaaccaacaggagaagaagtagaagaaaccgtagagggcgaagaaactgcagaagga 2084
                                                                                                                           gaagaaacaccagtagttgaagaaaaagtagtagaagaaacaccagtagtagtggaagaaaa 957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The present sequence is that of DNA encoding the Epstein-Barr virus (EBNA) nuclear antigen protein 1 (EBNA1, see AAY95856). EBNA1 is utilised in a novel method for obtaining a eukaryotic cell that is stably transfected with at least one episome. This method involves transfecting a eukaryotic cell with: (1) a first episome comprising
                                                                      atagaagaaacaccagtagtggaagaagatgtcgtcgaagaaacaccaatagtggaagaa
                                                         gaagaagtggaagaggtacctgcagaagtagaagaagtggaagaggtacctgcagaagta
                                                                                                              gaagaagtggaagaggtaccagaagaagtagaagaggtacccgcagaagtagaagt-
                                                                                                                                                                    --ggaagaggtaccagaaggaagtggaagaggtaccagaagaagtggaagaggtaccagaa
                                                                                                                                                                                               gaagaagattgtagaagaaacaccagtagtggaagaagaaatggtagaagaaacacca
                                                                                                                                                                                                                                                     gtaytggaagaagatgtagtagaagaaacaccagtagttgaagaagaagttgttgaagaa
                                                                                                                                                                                                                                                                                                                                         gaagaagaagaagaagaagaaccagtagaagaagaagatgtattacaattagtaata
                                                                                                                                                                                                                                                                                 ccaycogtagtagaagtagaagtaccagcggtagtagaagaagaggtgccagaagaagta
                                                                                                                                                                                                                                                                                                            acaccagtatttgaagaagttgtagaagaagaacatcagtagttgaagaagaatgata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nuclear antigen 1; EBNA1; episome; transfection; selection;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Epstein Barr virus nuclear antigen 1 protein (EBNA1) DNA
                                                                                                                                                                                                                                                                                                                                                                                              2442 ccatcggaagaagatatacaattagacaaaccaaagaa 2479
                                                                                                                                                                                                                                                                                                                                                                                                                        958 gttgttgaagaaacatcagtaattgaagacgcccggaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure; Fig 2; 53pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ВР
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAA50254 standard; DNA; 1926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      11-FEB-2000; 2000WO-US03547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99US-0249585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (PHAR-) PHARMACOPEIA INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chelsky
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2000-515062/46.
P-PSDB; AAY95856.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Epstein-barr virus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO200047778-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                11-FEB-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    07-NOV-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Horlick RA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          17-AUG-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAA50254;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Stably
2025
                                                                                                            2145
                                                                                                                                                                                             718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gene
                                                      2085
                                                                                598
                                                                                                                                                                   2204
                                                                                                                                                                                                                         2262
                                                                                                                                                                                                                                                     778
                                                                                                                                                                                                                                                                                                                                       2382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                    ò
                                                                           g
                                                                                                     ò
                                                                                                                                  g
                                                                                                                                                        ò
                                                                                                                                                                                    a
                                                                                                                                                                                                                  g &
                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                               음
                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                    g
```

```
rist protein whose expression results in cert userun and a selectable marker for eukaryotic cells; and (2) a second protein to repression of the second protein prohibits the occurrence of cell death resulting from expression of the first protein to produce combly transfected cells which also express an antigen that promotes retention of the episomes by the cells. The doubly transfected cells are maintained under conditions in which the first and second proteins and the selectable marker are expressed, and the selective pressure specified by the marker is maintained. Under these conditions, only cells containing both episomes live. Preferably, BBNA1 is expressed from 1 of the episomes, and the protein of interest from the other episome. Either or both epitopes may further comprise a nucleic acid sequence encoding a protein, a nucleic acid encoding an RNA that is not intended to be translated (e.g. a therapeutic RNA), or a DNA sequence used as a tag for the cells. The method is applicable to cell culture or cell intact organisms, for gene therapy. It allows the rapid establishment of eukaryotic cells that stably and reliably express a gene of interest, using a novel method of selection, and maintenance of that selection without the need for exogenous
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   caaggateetgatgeaggagaggetgtaacagtaceateaaaggaageacetgtacaagt 1798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1799 accagtggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaactccaaga 1858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   agaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggagaagaagtggaaga 2098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2099 ggtacctgcagaagtagaagaagtggaagaggtacctgcagaagtagaagaagtggaaga 2158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       agaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtacc 2278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                сааадудасссасуд тудаасаудаусаудаусаудаусаудаудудаудсаудаудауд
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .979 gccagaagaagaattagaggcaactccagaggacgatttcgaattagaagaaccaacagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ggtaccagaagaagtagaagaggtacccgcagaagtagaagaagtggaagaggtaccaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      agaagaagtggaagtggaagaagtagaagtagaagtagaggtaccagcggtagtagaagt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 1926;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
an EBV origin of replication (orIP, see AAADOLED), a yeare with the cell death and a first protein whose expression results in cell death and a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 1926 BP; 487 A; 352 C; 872·G; 215 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5.0%; Score 167.2; DB 21; 52.1%; Pred. No. 1.3e-18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                343;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .3e-18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                    selection factors, such as antibiotics.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local Similarity
les 373; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1739
   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          а
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             οy
```

2339 agaagtaccagcggtagtagaagaagaggtgccagaagaagtagaagaagaagaagaagaaga 2398

ò

ö

```
The invention provides a composition comprising nucleic acid, histone HI protein and expression vector operationally encoding a protein suitable for tethering the nucleic acid to the histone HI protein, where the tethering protein is LANA. The composition is useful in adding the retention of the viral DNA in the host cell. The viral vector encodes a protein suitable for tethering DNA to Histone HI. Methods for screening for compounds which are agonistic or antagonistic for the tethering of viral proteins to histone HI and DNA binding sites are useful for developing the method of viral transfer. The composition has applications to gene therapy, including the treatment of multiple sclerosis, Parkinson's disease, Huntington disease and diabetes. The present sequence represents the nucleotide sequence of the Epstein-barr virus (EBV) tethering protein ENNAI.
                                                                                                                                                                                                                                                                                                              Histone H1; tethering protein; LANA; gene therapy; multiple sclerosis;
Parkinson's disease; Huntington disease; diabetes; human herpesvirus 8;
EBV; latency-associated nuclear antigen; LANA; EBNA1; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              composition for use in gene therapy comprises an expression vector hat includes a nucleic acid sequence encoding a nucleic acid binding
2399 ggaagaaccagtagaagaagaagatgtattacaattagtaataccatcggaagaag 2454
                                                                                      Sequence 1926 BP; 487 A; 352 C; 872 G; 215 T; 0 other;
                                                                                                                                                                                                                                                                            EBV tethering protein EBNA1 encoding DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
1..1926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Fig 9C; 60pp; English.
                                                                                                                                                                          AAF82902 standard; DNA; 1926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       29-SEP-2000; 2000WO-US26908
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99US-0410399
                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Robertson ES, Cotter MA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (UNMI ) UNIV MICHIGAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2001-281736/29.
                                                                                                                                                                                                                                                                                                                                                                                    Epstein-barr virus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P-PSDB; AAB62332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO200125484-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-OCT-1999;
                                                                                                                                                                                                                                          29-JUN-2001
                                                                                                                                                                                                        AAF82902;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein
                                                                                  906
                                                                                                                                                                                                                                                                                                                                                                                                                    Key
                                                                                                                                                                                                          ò
```

```
2158
                                                     1799 accagtggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaactccaaga 1858
                                                                                                          aggagaaggagaaccaacggaagaagagccaagagaaggagagagccaacagaaggagagagt 1978
                                                                                                                                                                                                                                                                                                                                                                              :219 agaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtacc 2278
                                                                                                                                                                                                                                                                                                                                                                                                                                                            845
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ggaagaaccagtagaggaagaagatgtattacaattagtaataccatcggaagaag 2454
                          2099 ggtacctgcagaagtagaagaggtggaagaggtacctgcagaagtagaagagtggaaga
                                                                                                                                                                                                                                                                                                2159 ggtaccagaagaagtagaaggtacccgcagaagtagaagtagaagtggaagaggtaccaga
                                                                                                                                                                                                                                                                                                                                                     2279 agaagaagtggaagaagtggaagaagtagaagaagtagaggtaccagcggtagtagaagt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2339 agaagtaccagcggtagtagaagaagaggtgccagaagaagtagaagaagaagaaga
                                                                                                                                                               gccagaagaagtaattagaggcaactccagaggacgatttcgaattagaagaaccaacagg
                                                                                                                                                                                                                    agaaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggagaagaagtggaaga
                                                                                                                                                                                                                                                                                                                                                                                                         1919
                                                                                                                                                                                                                 2039
                         g
                                                   ò
                                                                          g
                                                                                                       QΥ
                                                                                                                                  qq
                                                                                                                                                              δy
                                                                                                                                                                                    Pp
                                                                                                                                                                                                                 δy
                                                                                                                                                                                                                                           gg
                                                                                                                                                                                                                                                                     Qγ
                                                                                                                                                                                                                                                                                           Db
                                                                                                                                                                                                                                                                                                                         òγ
                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                             Ω
                                                                                                                                                                                                                                                                                                                                                                                                       Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                  δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                           ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               염
```

Search completed: June 14, 2002, 15:37:24 Job time: 15436 sec

ö

Gaps

. 0

Pred. No. 1.3e-18; 0; Mismatches 343; Indels

Length 1926;

DB 22;

Score 167.2;

Query Match 5.0%; Best Local Similarity 52.1%; Matches 373; Conservative

1739

ð

caaggateetgatgeaggagggetgtaacagtaceateaaaggaageaeetgtacaagt 1798

;

```
AF413055 Zea mays
AC011767 Homo sapi
AC014442 Homo sapi
AC016204 Homo sapi
AF202180 Plasmodiu
AC091338 Rattus no
AC090533 Mus muscu
AC01634 Human Chr
AL645746 Mus muscu
AC014382 Mus muscu
E08995 DNA encodin
X07453 NILL
                                                                                                                                                                                                                                                                                    X07453 Prasmodium AFC056936 Plasmodium AFC056936 Plasmodium ACC096055 Rattus no ACC096055 Rattus no ACC096094 Rattus no ACC096094 Rattus no ACC091304 Homo sapi ACC091304 Homo sapi ACC091304 Homo sapi ACC091351 Fugu rubr ACC07346 Homo sapi ACC09140 Homo sapi ACC09141 Homo sapi ACC09141 Homo sapi ACC09141 Homo sapi ACC09161 Mus muscu ACC073564 Mus muscu ACC073564 Mus muscu
   ARIS1085 Sequence
123337 Sequence 1
E10125 DNA encodin
E10126 DNA encodin
AP002460 Arabidops
ALG62884 Homo sapi
AF413055 Zea mays
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PAT 08-AUG-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unknown.
Unclassified.
1 (bases 1 to 3337)
Barnwell.J.W.
Plasmodium vivax blood stage antigens, antibodies, and diagnostic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AE001373 Plasmodiu
AC002042 Homo sapi
AC106201 Rattus no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%; Score 3337; DB 6; Length 3337;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ų
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          assays
Patent: US 6231861-A 1 15-MAY-2001;
Location/Qualifiers
1. 3337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3337 bp
Sequence 1 from patent US 6231861.
AR151085.
AR151085.1 GI:15117135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S76368
HSV3PRGEN
                                                                                                               AF413055
AC011767
AC0116204
AC016204
AC091338
AC090533
AC018634
AC018634
AC018634
AC018634
BC080995
                                                                                                                                                                                                                                                                                                                     AC027267
AC106251
AC098555
AF317727
                                                                                                                                                                                                                                                                                       PF111A
AF056936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HSGEND
AC069544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AE001373
AC002042
AC106201
                                                   E10126
AP002460
                                    E10125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="unknown"
467 c 875 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         875 g
                                                                                                                                                                                                                                                                                                                                                                   10
100.0

100.0

100.0

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

100.3

10
                                                                                                                                                                                                                                                                                                                                                                                7.4 179149
7.3 157158
7.3 1782449
7.3 179337
7.2 206136
7.2 184855
7.2 184857
7.1 159971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          7.1 22398
7.1 20806
7.0 3358
7.0 112930
7.0 214864
6.9 230839
6.9 230839
6.9 227605
6.8 12029
6.8 1635424
                                                                                                                                                                                                                                                                                                                      174019
                                                                                                                                                                                                                                                                                                                                                      199508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Unknown.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1304
      3337
3337
342.8
342.8
330.6
318.6
307.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT
AR151085
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
         ^{3}
                                                                                                    OO
                                                                                                                                                                                                             υυ
                                                                                                                                                                                                                                                                                                                                                                      000
                                                                                                                                                                                                                                                                                                                                                                                                                                 υυ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              00000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          000
                                                                                                                                (without alignments)
17174.160 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Description
                                                                                                                                                                                                       June 14, 2002, 10:11:49 ; Search time 4066.1 Seconds
                                                                                                                                                                                                                                                                                                                     3595312
                   GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd
                                                                                                                                                                                                                                                                                      1797656 segs, 10463268293 residues
                                                                                                                                                                                                                                                                                                                  Potal number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                summaries
                                                                                - nucleic search, using sw model
                                                                                                                                                                                                                                      IDENTITY_NUC Gaport 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             em_un:*
em_v1:*
em_v1:*
em_htg_hum:*
em_htg_inv:*
em_htg_other:*
                                                                                                                                                                                                                                                                                                                                                                                               Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 su
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ü
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             em_htgo_inv:*
                                                                                                                                                                                                                                                                                                                                                  length: 0
length: 2000000000
                                                                                                                                                                         US-09-667-130-1
3337
1 gaattccggtaaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query
Match Length DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gb_pr:*
gb_ro:*
gb_sts:*
gb_sy:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gb_un:*
gb_vi:*
em_ba:*
em_fun:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  em_or:*
em_ov:*
em_pat:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 em_ro:*
em_sts:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     em_hum: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gb_ba:*
gb_htg:*
gb_in:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  em_in:*
em_mu:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 em_ph:*
em_pl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   em_om:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gb_om:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gb_pat:*
gb_ph:*
gb_pl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                               GenEmbl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9:
111::
13::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                 Minimum DB seq
Maximum DB seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score
                                                                                                                                                                                                                                        Scoring table:
                                                                                OM nucleic
                                                                                                                                                                                                                                                                                      Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Database
                                                                                                              Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Š
```

us-09-667-130-1\_1.rge

CCAGCGGAAGAATTAGATGCCACTCCAGAGGATGACTTCGCATTAGATGTT cccgaggaagtagaattagtattagatgaagaagacaactgaagaaatca	Db 1141 CGGAAGTGGGACCAACGGAAGAACGACCAAACGAAGAATTAGATGCCACTCCAGAGGATG 1200 Oy 1201 gatttcgcattagacgaaactgcagaagagaaacagaagaaacgtagaggagaagaa 1260 Db 1201 GATTTCGCATTAGACGAAACTGCAGAAGGAGAACAAACGTAGAGGGGAGAAGAA 1260	1261 cagaagaagctgcagaaggagaagtatcagaagaaactccagaaggagaagaagttag 13 	1321 aggcaactccagaggatgatttcgcattagatggaactacattagaagaaaccgaagaaa 13 	Oy 1381 ctgcagaaggagaaaccgtagaggagaagaaaccgtagagggagaagaaccgtag 144	Qy 1441 aggaagaagatgcagaagagagaagaagttagaggcaactccagaggatgacttcc 1500	Oy 1501 aattagaagaaccatcaggagaaggagaaggggaaggagaaggggaaggagaag 1560	Oy 1561 gagaagcgttagtagcagtgccagtagtggccgaaccggtagaagtagtgactcctgctc 162	Qy 1621 agcctgtcaaaccaatggtcgctccaacggcagatgaaactttattcgttgatatcttag 168	81 ataacgatttaacgtatgcagacattacatcctttgagccattatttaaacaaatcctca 17 	tacaagtac 19  {	1801 cagtggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaactccaagagg 18 	19	agagaaggagaccaacagaaggagaagtgc 1 	Oy 1981 cagaagaagaattagaggcaactccagaggacgatttcgaattagaagaaccaacaggag 20 	Oy 2041 aagaagtagaagaaaccgtagaggcgaagaaactgcagaaggagaagaagtggaagag 2100	Qy         2101 tacctgcagaagtagaagtagaagtggaagaggtacctgcagaagtagaagtggaagagg         2160
Similarity 100.0%; Pred. No. 0; Gaps 337; Conservative 0; Mismatches 0; Indels 0; Gaps aattcoggtaaagtaacaactatggttcogtatctatatataacttactaattttatc 60 [11] [11] [11] [11] [11] [11] [11] [11	oltergetteretteaatteaateagetteaagataaaaataaettaeaaaatege 120	AAAACAATATGAAAAAATTTTTTTTTTTTTTTTTTTTTT	cttctgatgatgttgtagaggtggaggatccttcaaacgacgt 	ttagat 	ccccgaagatgactttgccttaacagatttgccaattgaagacgatgagaagtcaacg 4 	aaacgttagatggaggtgaatcattaggagagtttccactgaagatatggaaacagaag 	atggctcaacagatgatacggaaacagaagaagactacctggtgatatggaaggagaag 5 	aagaagctggcgatatggaagcaggggaagaagctggtgatttggaagcagggaagaa 60 	ctggcgatttggaagcagggaagaactggcgatttggaagcaggggaagaagctggtg 	999aagaaactggcgatttggaagcagggaagaactggagatgcgg 7 	aaggagcaactggagatgcggaaactgaaaatggagcaactgtgtatgta	781 acacagaagatagttcagctgatggagcagaaaagtacatgttcctgctcaagaaatg 840 	tggataaagatataattt 90 	aattgtgggggtactgctaaac 96 	961 atgttacgggacaagaattgccaatgaaacctgtaccattaccagtggcagaagaccg 1020 	21 gcaaqaccagcagaaqaatatacagaaccagcagaaqataactcgatcagaacagagta 108

m

Qy         3241 cgcctaaccaaggaagaatggaatcaatt	RESULT 2 123337 LOCUS LOCUS DEFINITION Sequence 1 from patent US ACCESSION 123337 VERSION 123337.1 GI:1603207 KEYWORDS SOURCE UNROWN. ORGANISM UDKNOWN. REFERENCE I (Dassified. REFERENCE I (Dassified. REFERENCE I (Dassified. AUTHORS Barnwell.3 W.	Plasmodium vivax blood diagnostic assays Location/Qual. Ce /organism="un] T 1304 a 467 c 81454 c 81454 c 81454 c 8154 c 8154 c 8154 c 8154 c 8154 c 8154 c 8155 c 8	Loc es 1 1		Db 181 AAACAATATTGAAAAAATTTTTTTTTTTTTTTTTTTTTT	361 361 421	Qy         481 atggctcaacagatgatacggaaacaga
cagaag 2220          CAGAAG 2220 taccag 2280        TACCAG 2280	aagtag 2340        AAGTAG 2340 aagagg 2400        AAGAGG 2400 atatac 2460         ATATAC 2460	acatgc 2520          ACATGC 2520           ACCAT 2580  CCATC 2580  CCATC 2640 	270 270 276 276 276	282 282 288 288 288	aagata 2940                 AAGATA 2940   AAGAACG 3000   AGAACG 3000 atataa 3060		TGGACT 3180 TGGACT 3180 GGAAAA 3240 GGAAAA 3240
aagaggtacccgcagaagtagaagagtggaagaggtaccagaag 	tggaagaagtagaagtagagtaccagcgtagtagtagaagtag	agaaagacgaattaggctctggaattttatctatcatcgacatgc 	actgggaacgattagaagtgagcttaaataaggctagagaagat 	tttcaacaaaaggaaaggacccagctggtttgagaaaacgagagt 	tgaacgacactcattccaatttataaattcttgtgaaagata 		
	THE THE BEST	ccaaagaaagacgaattaggctc 	99cgactgggaacgattagaagt 11111111111111111111111 GGCGACTGGGAACGATTAGAAG agaaataaagaatgggctggctg 1111111111111111111	caaatttcaacaaaggaaagga 	tggatgaacgacactcattccaa 	ATGGTTCTGAATCATTGAAGTTAT Sgagaatggtaccgtgccaatcctaa (GAGAATGGTACCGTGCCAATCTAA	CTCCTAAAAGAAACGAATATTII GGTCAAAAGAAACGAATATTI HIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII
2161 taccaqaagaagtag 	2281 aagaagtggaagaag 	2461 aattagacaaccaaa 	41 41 01	61 21 21	2881 acttgaaaaatggat 	001 061 061	3121 TGAATGCTTTCTCCCT 3181 cattggaaaagtta 11111111111111111111111111
oy oy oy	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	0	oy oy oy	0 <i>y</i> 0 <i>y</i> 0 <i>y</i>	9 9 9 9 9 9	oy by by	do oy

```
ö
                                                         PAT 07-0CT-1996
                                                                                                             age antigens, PVESP-1, antibodies, and
aagaaggactacctggtgatatggaaggagaag 540
                                                                                                                                                                                                          aagaagctggtgatttggaagcaggggaagaaa 600
                                                                                                                                                                                     Gaps
                                                                                                                                                                            ó
                                                                                                                                                                 ore 3337; DB 6; Length 3337;
ed. No. 0;
Mismatches 0; Indels 0;
                                                          linear
                    ataaataattc 3337
||||||||||||||
ATAAATAATTC 3337
                                                          DNA
                                                                                                                       2-JUL-1996;
Lers
                                                         3337 bp
5 5532133.
                                                                                                                                            691
                                                                                                                                        . u.s.
```

QQ	541	AAGAAGCTGGCGATATGGAAGCAGGGGAAGAAGCTGGTGATTTGGAAGCAGGGGAAGAA 600	ċ	_	0 0 0
Oy da	601	ctggcgatttggaagcaggggaagaaactggcgatttggaagcaggggaagaagctggtg	S &		ATAACGAT
e è	661	oloconilioonachoooonacharlooconilioonachooonachoooonachooonachooonachoon	ОУ	1741	aggatecte
qq	661		අ ද		AGGATCCT
oy Ob	721	aaactgaagaaggagcaactggagatgcggaaactgaaaatggagcaactgtgtatgta	g d		cagtggcag 
Oy Op	781	acacagaagatagttcagctgatggagcagaaaagtacatgttcctgctcaagaaatg 8 	Qy	1861	acgatttcg              ACGATTTC
Qy Ph	841	tacaacctgccgatagtaatgatgcctctttggaagtattttggataaagatataattt 90 	Qy Dp	1921 1921	gagaagga             GAGAAGGA(
& a	901	tgatcatattaaagatttegagecactattegaacaaattgtggeggtaetgetaaae 9 	QY		cagaagaag 
Qy Db	961		Qy		aagaagtag 
Oy Db	1021	cgcaagtaccagcggaagaattagatgccactccagaggatgacttcgcattagatgtta   	Qy		tacctgca          TACCTGCA
oy d	1081	cagaatctcccgaggaagtagaattagtattagatgaagaggcaactgaagaagaatcaa 114	Qy	2161	taccagaa          TACCAGAA
2 & g	1141	CGGBAGTGGGACGAGGGAGGAGGAGGGGGGGGGGGGGGGG	Qy	2221	aagtggaag 
Oy Db	1201	gatttogcattagacgaaactgcagaaggagaaacagaagaaacgtagaggagaaa 1  - - - - - - - - - - - - - - - - - - -	Qy	2281	aagaagtgg                AAGAAGTG(
2 년	1261	cagaagaagctgcagaaggagaagtatcagaagaaactccagaaggagaagaagattag           111111111111111111111111111111111111	Qy		aagtaccag 
O O	1321	aggcaactccagaggatgatttcgcattagatggaactacattagaagaaaccgaagaaa	Qy	2401	aagaacca 
Oy Dp	1381	ctgcagaaggagaagaaaccgtagaggagagaaaaccgtagaggagaagaaaccgtag           1   1   1   1   1   1   1   1   1   1	Oy	461	aattagaca             
OŞ Dp	1441	agggagaagctgcagaaggagaagaagagttagaggcaactccagaggatgacttcc 15 	Qy	2521	actaccaa             ACTACCAA
Oy Dp	1501	aattagaagaaccatcagaagagaaggggaaggagaaggagaagggaagggaaggaga	Oy Dp	581 581	tgaaacca          TGAAACCA(
oy Op	1561 1561	gagaagcgttagtagcagtgccagtagtggccgaaccggtagaagtagtgactcctgctc 1620 	Qy Db		aaggccta               AAGGCCTA
Oy Db	1621 1621	agcctgtcaaaccaatggtcgctccaacggcagatgaaactttattcgttgatatcttag 1680 	QQ Dp	2701	ggatggaad            GGATGGAA

Qy	1681 1681	ataacgatttaacgtatgcagacattacatcctttgagccattatttaaacaaatcctca 1740 
Qy Db	1741	gatgcaggagaggctgtaacagtaccatcaaaggaagcacctgtacaagtac 
Oy Op	1801	tagggcccgcgcaagaagtgccaacggaagaattgatgcaactc 
δγ	1861	acgatttcgaattagaaggaactgcagaagctccagaggaagga
Qy Db	1921 1921	gaa 
Qy Db	1981	gaac      
Qy	41	gaa   1   3AA
Oy Dp	2101	gaag       SAAG
Qy	2161	ccagaagaagtagaaggtacccgcagaagtagaagaagtggaaggg 
Qy	2221	aagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtaccag 2280 
Qy	2281	aagaagtggaagaagtggaagaagtagaagtagaagtaccagcggtagtagtagtag 2340 
Qy	2341	aagtaccagcggtagtagaagaagaggtgccagaagaagtagaagaagaagaagaagaagagg 2400 
Qy	2401	aagaaccagtagaggaagaagatgtattacaattagtaataccatcggaagaagatatac 2460 
do .	2461	aattagacaaaccaaagaagacgaattaggctctggaattttatctatc
Qy	2521	accaagacgttccaaaggaatttatggaagaagaagaagaactgcagtg 
Oy Dp	2581	accagaagattttgcaaaggaagattcacaatctacagaatggctcacat 
Oy Dp	2641	tagaaggcgactgggaacgattagaagtgagcttaaataaggctag 
Oy Dp	2701	aaataaagaatgggctggctggcttcgcttaattga 

S

```
strandedness: Double;
                                                                                                              .2069
                                                                                                                                                                            Conservative
        topology: Linear;
                                                                                                                                                                     Local Similarity
                                                              misc_feature
                                                                            misc_feature
                                                misc_feature
                                                                                                                                         2069
                            source
                                                                                                                                                                           874;
                                                                                                                                           Seguence
                                                                                                                                                               Query Match
               Key
                                                                                                               source
                                                                                                                                                                                                                                                                                         263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         983
                                                                                                                                                                            Matches
g
                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                        QQ
                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                            QQ
                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                               ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Op
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                    òδ
                                                                                                                                                                                                                                                                                                                                                                                                                               DOI H., Nagakuchi Y., Tanaka Y., Fujisaki Y.;
"GENE CLONE MANIFESTING CHICKEN LEUCOCYTOZOON IMMUNOGENIC PROTEIN AND GENE
RECCOMBINANT VACCINE AGAINST CHICKEN LEUCOCYTOZOON";
Patent number JP1995284392-A,1, 31-OCT-1995.
DOUBUTSUYOU SEIBUTSUGAKUTEKI SEIZAI KYOKAI, KITASATO INST:THE.
                                                                                                                                                cattggaaaaaagttaaattttttgtgttcaattcaatgtgtacaacattttctggaaaa 3240
                                                                                                                                                                                                                            cgcctaaccaaggaagaatggaatcaatttgttaatgaaataaaagtttgaattatagaa 3300
                                                                                                                                                                                                                                  DOI HIROHITO, NAGAKUCHI YOSHIO, TANAKA YOSHIO, FUJISAKI YUJIRO
C12N15/09,A61K39/015,C12P21/02;
                                                                                                             cagaatatagtcaaatttcaacaaaaggaaaggacccagctggtttgagaaaacgagagt
                            ggagcgacgagaaatggaaaaatggtttaaagcagaagtcaaatcccaaattgattcac
                                 TGAAATGGTTTCTCCTAAAAGAAAACGAATATTTAGGACAAAGAATGGAAAAATGGACT
                                                       tgtcacaatttgaaaacaagaaaccaaagaatggttaatgaatcactggaaaaagaacg
                                                                                                                                                                     tgaaatggtttctcctaaaagaaaacgaatatttaggacaaagaatggaaaaatggact
                                                                                                                                         ctaagagtcgagaatggtaccgtgccaatcctaatataaatagagaagaagaactca
                                                                                                                                                                                                                                                      5
                                                                                                                                                                                                                                                                                                                                              08-OCT-1997 (Rel. 52, Created)
02-SEP-2000 (Rel. 65, Last updated, Version
                                                                                                                                                                                                                                                                                                       BP
                                                                                                                                                                                                                                                                                                                                                                   DNA encoding an immunogenicity protein
                                                                                                                                                                                                                                                                                                      2069
                                                                                                                                                                                                                                                                                                      standard; RNA; UNC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               19-APR-1994 JP 1994080643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Leucocytozon caulleryi
JP 1995284392-A/1
                                                                                                                                                                                                                                                                                                                                                                                 JP 1995284392-A/1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         31-0CT-1995
                                                                                                                                                                                                                                                                                                                                                                                              unidentified
unclassified
                                                                                                                                                                                                                                                                                                                                 E10125.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JЪ
                                                                                                                                                                                                                                                                                                                    E10125;
                                                                                                                                                                                                                                                                                                                                                                                                                   [1]
1-2069
                                                                                                                                                                                                                                                                                                      E10125
                                                                                                                                                                                                                                                                                        ٣
                                                                                                                                                      3061
                                                                    2881
                                                                                                                          3001
                                                                                                                                                                    3121
                                                                                                                                                                                 3121
                                                                                                                                                                                               3181
                                                                                                                                                                                                                          3241
2761
                          2821
                                                      2881
                                                                                  2941
                                                                                                             3001
                                                                                                                                        3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
                                                                                                                                                                                                                                                                                                E10125
ð
           g
                                                                 g
                                                                                           q
                                                                                                                       g
                                                                                                                                                  g
                                                                                                                                                                   ò
                                                                                                                                                                               8
                                                                                                                                                                                           ó
                                                                                                                                                                                                         g
                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                             à
                                     g
                                                   ò
                                                                                 ò
                                                                                                           ò
                                                                                                                                     ò
                                                                                                                                                                                                                                                     ò
```

```
1611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   955 ctaaacatgttacgggacaagaattgccaatgaaacctgtaccattaccagtggcagaag 1014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1075 atgttacagaatctcccgaggaagtagaattagtattagatgaagaaggcaactgaagaag 1134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1135 aatcaacggaagtgggaccaacggaagaaggaccaaccgaagaattagatgccactccag 1194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1195 aggatggatttc--gcattagacgaaactgcagaaggagaaacagaagaaacgta-gagg 1251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gagaagaaacagaagatgcagaaggagaagtatcagaagaaactccagaaggagagag 1311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1492 atgacttccaattagaagaaccatcaggagaaggagaaggggaagggaaggaggaggagggg 1551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  743 ATGAAGAAATAGAAAAAGAAGAGCATGAAGAAGTAATACATGAAGAAGAAAAAGAAGAAGAAG 802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   383 CAACACATTATGAAAGAGAAATAATTTATATAGTAGATGATTTACCAGAAGTAAATGTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1015 agcccgcgcaagtaccagcggaagaattagatgccactccagaggatgacttcgcattag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            443 AAGAATCAGATGAAACAGAACATATAACATATGAAATAGATAATGACATACAAGAAGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         623 AAAAAGAGAGCATGAAGAAGTAATACATGAAGAAGAAAAAAGAAGAAGTAACACATGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             683 AAAAAGAAAAAGAAGAGCATGAAGAAGTAATACATGAAGAAGAAAAAGAAGTAACAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1312 aagagttagaggcaactccagaggatgatttcgcattagatggaactacattagaagaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1372 ccgaagaaactgcagaaggagaaaaccgtagaggagaaaagaaaccgtagaggagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      803 TAACACATGAAGAAATAGAAAAGAAGAAGCATGAAGAAGTAATACATGAGGAAGAAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1432 aaaccgtagaggagaagaagctgcagaaggagaagaagaagttagaggcaactccagagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          863 AAGAAGTAACACATGAAGAAATAGAAAAAGAAGAAGCATGAAGAAGTAATACATGAAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aaggaagaaggattagtagcagtgccagtagcggtggccgaaccggtagaagtagtga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 503 ATGAAAAAGTAACACATGAAGAAGAAAAAAAAAGAAGTAACACATGAAGAAATAGAAAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2069;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                              /organism="Leucocytozon caulleryi"
/strain="shizuoka"
1. .25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       other;
                                                                                                                                                                                                                                                              protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BP; 1216 A; 167 C; 443 G; 243 T; 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 342.8; DB 23;
Pred. No. 2.7e-40;
0; Mismatches 807;
                                                                                                                                                                                                                                                            /product-"immunogenicity
                                                                                                                                                                          'note="EcoRI adaptor'
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="unidentified"
                                                                                                                                                                                                                                                                                                                                                                                        /db_xref-"taxon:32644"
                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10.3%;
51.8%;
```

4

```
E10126
                                                                                                                                                                                                                                                                                                                                                                                                                                          Key
                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                2148
                                                                                                                                                                                                                                                                                                                                                                                                                2448
                                                                                                                                                                                                                                                                                                 1642
                                                                                                                                                                                                                                                                                                                 2268
                                                                                                                                                                                                                                                                                                                                                2328
                                                               1163 AAAAAGAAGAAGTAACACATGAAGAAGAAAAAGAAGAAGTAACACATGAAGAAGAAAAAG 1222
                                                                                tacaagtaccagtggcagtagggcccgcgcgaagaagtgccaacggaagaattgatgcaac 1851
                                                                                                                 1911
                                                                                                                                1342
                                                                                                                                                             2028
                                                                                                                                                                                                1403 AAAAAGTAACACATGAAGAAGAAGAAAAAGTAACATATGAAGAAGAAGAAGAAGAAGAAG 1462
                                                                                                                                                                                                                 aaccaacaggagaagaagtagaagaaaccgtagaggcgaagaaactgcagaaggagaag 2088
                                                                                                                                                                                                                        2208
                                                                                                                                                                                                                                                                                                                          2388
                                                                                                                                                                                                                                                                                                                                                                                          2508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGAAGAAGAAGAAAAGTAACACATGAAGAAGAAGAAAAATGTAACATATGAAGAAGAAG 1942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cagigitateceatigaaaccagaagatitigeaaaggaagaticaeaatetaeagaatgge 2628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2061
1043 TACATGAAGAAGAAAAAAGAAGAAGTAACACATGAAGAAGAAGAAGAAAAAAAGTAACACATG 1102
                                                 aaatcctcaaggatcctgatgcaggagaggctgtaacagtaccatcaaaggaagcacctg 1791
                                                                                               1223 aagaagtaacacatgaagaagaaaaagaagaagtaacacatgaagaagaaaaagaag 1282
                                                                                                                                                1523 ATGAAGAAGAAGAAAAAGTAATACATGAAGAAGAAGAAAAAGAAGAAGATGAGGAAGAAG 1582
                                                                                                                                                                                                                                                                                                                                                                                                                               ATGTAACATATGAAGAAGAAGAAGAAAAAGTAACACATGAAGAAGAAGAAAAAGTAACAC 1882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1672 atatcttagataacgatttaacgtatgcagacattacatcctttgagccattatttaaac
                                AAGAAGAAGAAAAAAGTAATACATGAAGAAGAAAAAGAAGAAGTAATACATGAAGAAG
                                                                                                                 1283 TAACACATGAAGAAGAAGAAAAGTAACACATGAAGAAGAAAAAGAAGAAGTAACACATG
                                                                                                                                                                                 gagaagtgcca---gaagaagtagaattagaggcaactccagaggacgatttcgaattagaag
                                                                                                                                                                                                                                                                                2149 aagtggaagaggtaccagaagaagtagaagaggtacccgcagaagtagaagtggaag
                                                                                                                                                                                                                                                                                                                 aggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtgg
                                                                                                                                                                                                                                                                                                                                                                               tagtagaagtagaagtaccagcggtagtagaagaagaagtgccagaagaagtagaagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                2449 aagaagatatacaattagacaaaccaaagaaagacgaattaggctctggaattttatcta
                                                                                                                                                                                                                                                                                                                                                 aagaagtaccagaagtagaagtagaagtggaagaagtagaagtagaagtagaggtaccagcgg
                                                                                                                                                                                                                                                 aagtggaagaggtacctgcagaagtagaagaggtggaaggtacctgcagaagtagaag
                                                                                                                                                                                                                                                                                                                                                                                                                 aagaagaagaagaaccagtagaggaagaagatgtattacaattagtaataccatcgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tcatcgacatgcactaccaagacgttccaaaggaatttatggaagaagaagaagaactg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tcacattc 2636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCGAATTC 2069
                                                                                                                                                                                                                                                                                                1583
                               1103
                                                1732
                                                                                1792
                                                                                                                1852
                                                                                                                                                1912
                                                                                                                                                                                                                 2029
                                                                                                                                                                                                                                1463
                                                                                                                                                                                                                                                2089
                                                                                                                                                                                                                                                                                                                2209
                                                                                                                                                                                                                                                                                                                                                2269
                                                                                                                                                                                                                                                                                                                                                                               2329
                                                                                                                                                                                                                                                                                                                                                                                                                2389
                                                                                                                                                                                                                                                                                                                                                                                                                               1823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                1883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2062
qq
                               g
                                                              g
                                                                                           Q
                                                                                                            δ
                                                                                                                              Q
                                                                                                                                                            QQ
                                                                                                                                                                              ò
                                                                                                                                                                                             g
                                                                                                                                                                                                                             Op
                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                             Ob
                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               рp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                 ð
                                               οχ
                                                                               ò
                                                                                                                                                ò
                                                                                                                                                                                                                Qγ
                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
```

RESULT E10126

```
4:
                                                                                                                                                    Ç
                                                                                                                                                                                                                                                                                                                                         GE
                                                                                                                                                  DNA encoding an immunogenicity protein of Leucocytozon caulleryi fused
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ctaaacatgttacgggacaagaattgccaatgaaacctgtaccattaccagtggcagaag 1014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "GENE CLONE MANIFESTING CHICKEN LEUCOCYTOZOON IMMUNOGENIC PROTEIN AND RECOMBINANT VACCINE AGAINST CHICKEN LEUCOCYTOZOON"; PATCH IN LEUCOCYTOZOON"; PATCH IN LAW TO THE STATE TO THE STATE THE STATE STATE STATE STATE STATE STATE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           agcccgcgcaagtaccagcggaagaattagatgccactccagaggatgacttcgcattag 1074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TANAKA YOSHIO, FUJISAKI YUJIRO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1. .3399
/organism="Artificial sequences"
1. .3399
/product="fusion protein of maltose-binding protein and an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    from pMAL-c vector"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 23; Length 3399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BP; 1577 A; 509 C; 797 G; 516 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6e-40;
                                                                                                                  Last updated, Version 2)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note="sequence derived
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1150. 1174
/note="EcoRI adaptor"
1174. 3195
/note="immunogenicity p
3194. 3218
/note="EcoRI adaptor"
3219. 3399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             immunogenicity protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  . .1149
note="maltose-binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 342.8;
Pred. No. 2.6e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="unidentified"
 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /db_xref="taxon:32644"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19-APR-1994 JP 1994080643
DOI HIROHITO, NGGAKÜCHI YOSHIO,
C12N15/09,A61K99/015,C12P21/02;
strandedness: Double;
standard; DNA; UNC; 3399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                         Tanaka .Y.,
                                                                                                  Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10.3%;
51.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                          JP 1995284392-A/2
31-OCT-1995
19-bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .3399
                                                                                                                                                                   maltose-binding protein
                                                                                                  08-OCT-1997 (Rel. 52, 02-SEP-2000 (Rel. 65,
                                                                                                                                                                                                                                                                                                                       Nagakuchi Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                topology: Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
Les 874; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                   JP 1995284392-A/2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 3399
                                                                                                                                                                                                                                     unidentified unclassified.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                 E10126.1
                                                                                                                                                                                                                                                                                                                       Doi H.,
"GENE CL
                               E10126;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          pp
```

2	1075	nttananaatrironnandaantanaattantattanatnaanannontnaannin 1
G 6	1652	-g-curagam-cuccaygayaagaagaagaagaagaagaagagagagagagag
yo d	1135	aatcaacggaagtgggaccaacggaagaacaaccgaagaattagatgccactccag 1194 
٥ý	1195	g 125
Op	1772	aaaaagaagaagaagaagaaatacatgaagaagaaaagaagaagaagaagaagaagaagaagagag
O.y D.b	1252 1832	gagaagaaacagaagaagctgcagaaggagaagtatcagaagaaactccagaaggagaag 1311 
Oy Dp	1312	aagagttagaggcaactccagaggatgatttcgcattagatggaactacattagaagaaa 1371 
oy og	1372 1952	ccgaagaaactgcagaagaagaagaaccgtagagggagaagaccgtagagggagaag 1431 
6y Dp	1432	aaaccgtagagggagaagactgcagaaggagaagaagttagaggcaactccagagg 1491 
ο <sub>γ</sub>	1492 2072	atgacttccaattagaagaaccatcaggagaaggagaaggggaaggagaaggagaggg 1551 
oy Dp	1552 2132	aaggagaaagggttagtagcagtgccagtagtggccgaaccggtagaagtagtga 1611 
oy B	1612 2192	ctcctgctcagcctgtcaaaccaatggtcgctccaacggcagatgaaactttattcgttg 1671 
oy Dp	1672 2252	atatottagataacgatttaacgtatgcagacattacatcotttgagccattatttaaac 1731 
oy Og	1732	aaatcctcaaggatcctgatgcaggagggctgtaacagtaccatcaaaggaagcacctg 1791 
Oy Dp	1792 2372	tacaagtaccagtggcagtagggccgcgagaagtgccaacggaagattgatgcaac 1851 
Oy Dp	1852	tccaagaggacgatttcgaattagaaggaactgcagaagtccagaggaagga
Q Op	1912 2492	tattagaaggagaaggagaaccaacggaagaagaccaagagagagccaacagaag 1971 
Qy Dp	1972 2552	gagaagtgccagaagaagaattagaggcaactccagaggacgatttcgaattagaag 2028   1111
දුරු පු	2029	aaccaacaggagaagaagtagaagaaccgtagagggcgaagaactgcagaaggagaag 2088 
Oy Dp	2089	aagtggaagaggtacctgcagaagtagaagaagtggaagaggtacctgcagaagtagaag 2148 

```
Direct Submission

Submitted (06-JUN-2000) Yasukazu Nakamura, Kazusa DNA Research
Instituted, Department of Plant Gene Research; 1532-3, Yana,
Kisarzau, Chiba 292-0812, Japan (E-mall:ynakamu@kazusa.or.jp,
Tel:81-438-52-3935, Fax:81-438-52-3934)

Address for correspondence: kaos@kazusa.or.jp
For the latest information on annotation of this clone, please see
http://www.kazusa.or.jp/kaos/cgi.bin/agd_graph.cg/?c=F109
Genes with similarity to proteins in the databases are described in
'product' or 'note' qualifiers. Genes that have no significant
protein similarity are described as 'unknown protein'.
The software programs used to predict genes include: Grall
(Informatics Group, Oak Ridge National Laboratory,
http://compbb.o.nnl.gov/Grall-11.3/),
GENSCAN (Chris Burge, MIT, http://CRS. Technical University of
Denmark, http://www.cbs.dtu.dk/services/NetGene2/) and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Arabidopsis thaliana genomic DNA, chromosome 3, BAC clone:F1D9.
AP002460 BA000014
AP002460.1 GI:8347620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                2328
aagaagaagaagaaccagtagaagaagaagatgtattacaattagtaataccatcgg 2448
                                                                                                                                                                                                                                                                                                                                                                                                                                        tcatcgacatgcactaccaagacgttccaaaggaatttatggaagaagaagaagaaactg 2568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2569 cagigitatic atiga a accaga a gattitigica a agga a gattica ca a tota caga a tigo 2628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2329 tagtagaagtagaagtaccagcggtagtagaagaagaaggtgccagaagaagtagaagaag 2388
                                                                                                                                                                                                                                                                          2972 ATGTAACATATGAAGAAGAAGAAAAAGTAACACATGAAGAAGAAGAAAGTAACAC 3031
                                                                                                                                                                                                                                                                                                                                                                                                                2449 aagaagatatacaattagacaaaccaaagaaagacgaattaggctctggaattttatcta 2508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3092 AAGAAAAGTAACACATGAAGAAGAAGAAGAAAAAGTAAT-GAAGAAGAAGAAGATAATG 3150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 (sites)
Nakamura,Y.
Structural Analysis of Arabidopsis thaliana Chromosome 3. III
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Arabidopsis thaliana (strain:Columbia) DNA, clone_lib:IGF BAC
                                                                                                                                                                                     2269 aagaggtaccagaagaagtggaagaagtggaagaagtagaagtagaagtagaagtaccagcgg
                                                                                  aggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 (bases 1 to 111554)
Nakamura, Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       clone:F1D9.
Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3211 TCGAATTC 3218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2629 tcacattc 2636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
AUTHORS
TITLE
JOURNAL
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                2389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2509
                                                                                2209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
AP002460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMMENT
                                q
                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                            QQ
                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                             à
                                                                                                              QQ
                                                                                                                                                       õ
                                                                                                                                                                                                                                              δy
                                                                                                                                                                                                                                                                                                                                                                                                          õ
```

```
/evidence=not_experimental
join[51111. .51234,51470. .52398,52474. .52672,52762. .53360,
53433. .53558,53717. .53809,53908. .54010,54110. .54210,
54472. .54531,54627. .54728,54795. .55047,55142. .55226,
55334. .56637,57320. .57389,57601. .58187)
join(30097. .30190,30265. .30551,30614. .31510,31758. .32036)
/note="gene_id:F1D9.8"
/codon_start=1
                                                                                                                                                                                                                              join 40639. .40982,41779. .42326,42393. .42794,42903. .42938,
43020. .43142,43226. .43333,43425. .43481,43588. .43650,
43733. .43973,44026. .44107,44503. .44674,44813. .44940,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /codon_start=1
/evidence=not_experimental
/protein_id="BAB01984.1"
/db_xref="01:9294133"
/translation="MLSKVKIPLPDLMSSVLALDESVIDVDQVDNLIKFCPTKEEAEL
LKGFTGNKETLGRCEOFFLELLKVPRYETKLRFYFSKTQFPROYNGSTKRRANGTL
SLGNALNHGTARGSAIGFHLEDLKLTPTRSRNSKMTLMHYLCKGVLAEKLPGLLNFP
KDMIOLKYLAEEMQATSKGLEKVYQEFTASETDCQTSKHFHNNLKEFLSVAEGESVRSL
ASLYSTVGGSADALALYFGEDPARVPFEQVVSTLQNFVRIFVRSHEENCKQVEFEKKR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /evidence-not_experimental
complement(join(58782. .58995,59066. .59150,59231. .59498,
60276. .61922,61970. .62259,62305. .62482))
/note="gene_id:F1D9.12"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          64414,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /evidence=not_experimental //evidence=not_experimental //product="maize transposon MuDR protein-like" //product=maize transposon MuDR protein-like" //product=maize transposon //evidence /
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /evidence=not_experimental
complement(join(68701. .69561,69697. .70591,70640. .70667,71526. .72709,73898. .73300,73370. .73533,73687. .74594))
/note="gene_id:F1D9.15"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /evidence=not_experimental
join(46889. 47780,47984. .48332,48695. .48783)
/note="gene_id:F1D9.10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /product="retroelement pol polyprotein-like"
complement(75178. .76058)
                                                                                                                                                           /evidence=not_experimental
/product="ATP-dependent CLPB protein-like"
                                                                                                                                                                                                                                                                                                                                                                                                                                                             strong similarity to unknown protein" /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         strong similarity to unknown protein"
/codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       similar to unknown protein" /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  similar to unknown protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   similar to unknown protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /evidence=not_experimental
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   complement(66524. .66974)
/note="gb|AAD23008.1
gene_id:F1D9.14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="gb|AAD23008.1
                                                                                                                                                                                                                                                                                                                                                                                         /note="gb|AAD25852.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AQKEAENEKLKKGVYNEN"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gene_id:F1D9.16
                                                                                                                                                                                                                                                                                                                                                                                                                                 gene_id:F1D9:9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /codon_start=1
                                                                                                                                                                                                                                                                                                                                                         .45198)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         pir||T02599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   pir||T01475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /bsendo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /psengo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /bsengo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /pseudo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /pseudo
                                                                                                                                                                                                                                                                                                                                                         45043.
           CDS
                                                                                                                                                                                                                                          CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /evidence=not_experimental
/product="helicase-like protein"
join(11589. .11736,11836. .12019,12305. .12497,12774. .12896,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /clone_lib="IGF BAC"

complement(join(4747. .5195,5297. .5754,5827. .6284,

6457. .6803,6864. .7079,7216. .7286,7326. .7810,7914. .8253,

Anote="gene_li:FlD9.1"

/codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           complement(join(19018. .19216,19317. .19390,19600. .19746))
/note="contains similarity to unknown protein
SplicePredictor (Volker Brendel, Stanford University, http://gremlini.zool.iastate.edu/cgi.bln/sp.cgi).
Genes encoding tRNAs are predicted by tRNAscan-SE (Sean Eddy, Washington University School of Medicine, St. Louis, http://genome.wustl.edu/eddy/tRNAscan-SE/).
This sequence may not be the entire insert of this clone. It may be shorter because we remove overlaps between neighboring submissions.
The 5' clone is TRN9 and the 3' clone is 7789.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          // Protein_id="BAA97092.1"
// Protein_id="BAA97092.1"
// Protein_id="BAA97092.1"
// Protein_id="G1:8777574"
// Lranslation="WAKKERHKVOYREEDVKRMLKLIMPYLNESLHQOLRALFSGYP
STTLKITNYWKELEEWKHWTKOEFIASFRSSGFSTGAYIPWCAKIINKDFGKHGLAVL
join(21817. .22004,22075. .22143)
// Anote="contains similarity to ATP-dependent CLPB protein
gene_id:FID9.4"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /translation="MLEQILHERVIAQDLDVESVADAIRCSKAGISDPNRPIASFMFM
GPTSVVSQLVGASVGYVGYEDGGKSTEVVRRRPYSVVQFDEIEKPHPNVFSILLQLLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QPLNSSVISKIVELQVVQMRQMKKRLEQPNNKLEITLNVLKGDFAENDTILIDADQPF
NKLVIKKMENNAHVKQN"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DGRITDSHGSLHILIETIRNNEDIKEAVYEMMKQQVVELARKTFKPKFMNRIDEYIVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /evidence=not_experimental
join(24404. .24543.24659. .24879)
/note="contains similarity to ATP-dependent CLPB protein
gene_id:FID9.6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   complement(22489. 23812)
/note="contains similarity to retroelement pol
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /pseudo
/evidence=not_experimental
/product="retroelement pol polyprotein-like"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /evidence=not_experimental
product="AP-"dependent CLPB protein-11ke"
/protein_id="BAA97091.1"
/db_xref="GI:8777573"
                                                                                                                                                                                                                                                                                                                                                                                             /organism="Arabidopsis thaliana"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /pseudo
/evidence=not_experimental
complement(25073. .29379)
/note="gene_id:F1D9.7"
/codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /evidence=not_experimental complement(22489. .23812)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13021. .13080)
/note="gene_id:F1D9.2"
/codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /db_xref="taxon:3702"
/chromosome="3"
                                                                                                                                                                                                                                                                                                              Location/Qualifiers
1. .111554
                                                                                                                                                                                                                                                                                                                                                                                                                                     /strain="Columbia'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gene_id:F1D9.3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gene_id:F1D9.5"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /clone="F1D9"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gb | AAC97228.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              polyprotein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /pseudo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /bsendo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /psendo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CDS
                                                                                                                                                                                                                                                                                                                  FEATURES
```

```
Arabidopsis thallana DNA, chromosome 4 centromere region, BAC clone: T2P22.

    1. 1562
/note="overlap to BAC T24Cl, please refer for analysis and
annotation"

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Anote-"similarity to fragments of Athila retrotransposons" 20083. 21998
Anote-"similarity to fragments of En/Spm transposon" 21989. 26189
Anote-"similarity to fragments of Athila retrotransposons" 26190. 27270. 27270.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5535. 6021
/note="similarity to fragments of Athila retrotransposons"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1563. .3867
/note="similarity to fragments of Athila retrotransposons"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note="similarity to fragments of Athila retrotransposons" 12456. \ .18907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of Athila retrotransposons"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            to fragments of Athila retrotransposons"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               to fragments of Athila retrotransposons"
                                                                                                                                                                                                                                                                           Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
Rosidae; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="similarity to fragments of Tat retrotransposons"
                                                                                                                                                                                                                                                                                            1 (Sites)
Kumekawa,N., Hosouchi,T., Tsuruoka,H. and Kotani,H.
The size and sequence organization of the centromeric region of Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Direct Submission
Submitted (16-OCT-2001) Hirokazu Kotani, Kazusa DNA Research
Institute, Lab. Chromosome Research II; 1532-3 Yana, Kisarazu,
Chiba 292-0812, Japan (E-mail:kotani@kazusa.or.jp,
Tel:81-438-52-3920, Fax:81-438-52-3921)
Location/Qualifiers
1. 81019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        En/Spm transposon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     En/Spm transposon
                                                                                                                                                                                                                                             Arabidopsis thaliana (cultivar:Columbia) DNA, clone:T2P22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="similarity to fragments of 18908. .20082
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     to fragments of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Arabidopsis thaliana"
/cultivar="Columbia"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            7note="similarity to fragments 27839. .29036
                   Qy 2469 aaaccaaagaaagacgaattaggctctggaatt 2501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /db_xref="taxon:3702"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      44712. .51299
/note="similarity to
51300. .53083
53084. .53829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  29037. .30847
/note="similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="similarity
36523. .37042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /map="centromere"
/clone="T2P22"
                                                                                                                                                                                                                                                                                                                                                                                                                                 2 (bases 1 to 81019)
Kotani, H. and Kumekawa, N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /chromosome="4"
                                                                                                                                                                                                       AB073159.1 GI:18149197
                                                                                                                                                                                                                                                               Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            nisc_feature
                                                                                                                                                                                                       VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
JOURNAL
                                                                                                                                                                                      ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                           RESULT
AB073159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LTR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                              /evidence=not_experimental
complement(join(87685. .88025,88101. .88185,88231. .88862,
88953. .89075,89158. .89715))
/note="gene_id:PlD9.19"
                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                /product="copia-type reverse transcriptase-like protein"
complement(join(81294. .81521,81620. .82285))
/note="gb|AAD23008.1
gene_id:FiD9.18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gaattagaggcaactccagaggacgatttcgaattagaagaaccaacaggagaagaagta 2048
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gaagtagaagaagtggaagaggtacctgcagaagtagaagtagaagtggaagaggtaccagaa 2168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2169 gaagtagaagaggtacccgcagaagtagaagaagtggaagaggtaccagaagaagtggaa 2228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gaggtaccagaagaagtggaagagtaccagaagagtggaagaggtaccagaagagtg 2288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gcggtagtagtagaagaaggtgccagaagaagtagaagaagaagaagaagaagaagaacca 2408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gtagaggaagaagatgtattacaattagtaataccatcggaagaagatatacaattagac 2468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1749 gatgcaggagatgtaacagtaccatcaaaggaagcacctgtacaagtaccagtggca 1808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gtagggcccgcgcaagaagtgccaacggaagaattgatgcaactccaagaggacgatttc 1868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gaaccaacggaagaagagccaagagagagagagccaacagaaggagagagtgccagaagaa 1988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2049 gaagaaaccgtagagggcgaagaactgcagaaggaagaagtggaaggaggtacctgca 2108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gaagaagtggaagaagtagaagtagaagtagaggtaccagcggtagtagaagtagaagtacca 2348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gaattagaaggaactgcagaagctccagaggaaggaagtagtattagaaggagga
                                                                                                                                                                                                                                                                                                                                                                                               Length 111554;
                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                       strong similarity to unknown protein'/codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                           9.9%; Score 330.6; DB 8;
llarity 64.9%; Pred. No. 1.3e-38;
Conservative 0; Mismatches 264;
                                   /evidence-not_experimental
                                                                                                                                                  /evidence=not_experimental
                                                   76515. .80547
/note="emb|CAB75469.1
gene_id:F1D9.17"
/codon_start=1
                                                                                                        /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 489;
                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Db 110108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1929
                                                   CDS
                                                                                                                                                                                      CDS
                                                                                                                                                                                                                                                                                                                  CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
```

```
g
                                                                                                                                            Пр
                                     ŏ
                                                                     g
                                                                                                            á
                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                   join(78124. 78212,78321. 78572,78639. 78807,79136. 79851. 79957. .80048)
                                                                                                                                                                                                                                                                                                                                                                          /protein_id="BabB3611.1"
/db_xref="G1:18149198"
/translation="WOLICDIDGTIYLYKAPKKVIILLIYRPVLLTVLSKNVSFAIH
/translation="WOLICDIDGTIYLYKAPKKVIILLIYRPVLLTVLSKNVSFAIH
PFIFSQISWSLQNIIFFYINLFFTIYYPTLLHQOIPHLIKHBIKKDFGQNLFTKSGHK
PFIKLKTARREHRPLITIPASILTSATRKRNNTJDSTIRRRQOSIPFSPFIVSLQIS
SPSRFIINIEMASSKGSQNHRNLGCNGKQALLPPKSPFTGGPTFSADFVPSSVIGSKA
              /rpt_family="(GAA)n"
11235. .73234
70che="similarity to fragments of Athila retrotransposons"
73235. .75775
75776. .77556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VQKLCEGNANHHRTSSESFLIEEQPSWLDDLLNEPETPVRKGGHRRSSSDSFAYDVPP
VGFDYDYTLWDGGRYNNNGFSNHYRGPRESDYLRSQPVPFYPSAHLSKQKIRPWDSL
POSCARPNSSGCLESSSITTRSGSSGSLRDTEKAYSAADSKKDFINNFAKSSFEKRDN
PLAKSATSEADTKRAKQFAQRSYRKIQYTAELERNVQMLQV"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                    62073. .62855
65457. .65959
65960. .70568
7/notes similarity to fragments of Tat retrotransposons"
70569. .71234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /product="putative bZIP transcriptional activator-like
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    aagaagtgccaacggaagaattgatgcaactccaagaggacgatttcgaattagaaggaa 1881
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aagtagaagtagaggtaccagcggtagtagaagtagaagtaccagcggtagtagaaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ctgcagaagctccagaggaaggagaattagtattagaaggagaaggagaaccaacggaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2002 ctccagaggacgatttcgaattagaagaaccaacaggagaagaagtagaagaaaccgtag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               agggcgaagaaactgcagaaggaagaagtggaaggaaggtacctgcagaagtagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2122 tggaagaggtacctgcagaagtagaagaagtggaagaggtaccagaagaagtagaagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tacccgcagaagtagaagaggtggaagaggtaccagaagagtggaagaggtaccagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              aagtggaagaggtaccagaaggaagtggaaggtaccagaaggaggtggaagtggaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 81019;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity 67.3%; Score 318.6; DB 8; Length Similarity 67.3%; Pred. No. 7e-37; Conservative 0; Mismatches 219; Indels
                                                                                                                                                                                                                                                                                                                             /evidence=not_experimental
                                                                                                                                                                                                                                                                                                         /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              æ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          24352
                                                                                                                                                                repeat_region
misc_feature
                                                  misc_feature
                                                                                                                         misc_feature
                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 450;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local S:
Matches 450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2062
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1822
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                pp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
```

```
Homo sapiens chromosome 6 clone XXbac-300Al8, *** SEQUENCING IN ALGERS ***, 9 unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (sites)
                                                                                                                                                      Direct Submission
Submitted (07-FEB-2002) Wellcome Trust Sanger Institute, Hinxton.
Assembly program: XGAP4; version 4.5
Sequencing vector: plasmid; L08752; 100% of reads
Chemistry: Dye-terminator Big Dye; 100% of reads
Consensus quality: 140263 bases at least Q40
Consensus quality: 141340 bases at least Q20
Consensus quality: 142357 bases at least Q20
Insert size: 143705; Sum-of-contigs
Insert size: 1444041; 6.8% error; agarose-fp
Quality coverage: 9.03x in Q20 bases; sum-of-contigs Quality
Coverage: 9.45x in Q20 bases; agarose-fp
                                           arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                * NOTE: This is a 'working draft' sequence. It currently consists of 9 contigs. The true order of the pieces is not known and their order in this sequence record is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          45644 45743: gap of 100 bp
45744 61827: contig of 16084 bp in length
61828 61927: app of 100 bp
101928 107959: contig of 46032 bp in length
107960 108059: gap of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          6934 7033; gap of 100 bp
7034 28893; contig of 21860 bp in length
28894 28993; gap of 100 bp
28994 31651; contig of 2658 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               31652 31751: gap of 100 bp 31752 45643: contig of 13892 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             6933: contig of 6933 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Center project name: bPG300A18
                                                                                                                                                                                                                                                                                                                                                                                                                                                              AL662884.4 GI:18643821
HTG; HTGS_PHASE1.
                                                                                                                                                                                                                                               | |||||||
| 71230 AAGAATTAG 71238
                                                                                                                                                                                                                      2482 acgaattag 2490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Center code:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sims, S.
                                                                                                                                                                                                                                                                                                                              RESULT 7
AL662884/C
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                              VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMMENT
```

```
AF413055 1902 bp DNA linear PLN 31-DEC-2001
Zea mays CTT long trinucleotide repeat and putative protein
    130680 TAGTAGTNGTAGTAGTAGTAGTAGTAGTAGTNGTAGTAGTAGTAGTAGTAGTAGTAGTAGTAGTNG 130621
                                                                                                                                                                                          Db 130560 TAGTNGTAGTAGTAGTAGTAGTAGTAGTAGTNGTOGTAGTAGTAGTAGTAGTAGTAGTAGTNGTAG 130501
                                                                              1618 ctcagcctgtcaaaccaatggtcgctccaacggcagatgaaactttattcgttgatatct 1677
                                                                                                            tagataacgatttaacgtatgcagacattacatcctttgagccattatttaaacaaatcc 1737
                                                                                                                                                                         1738 tcaaggatcctgatgcaggagaggctgtaacagtaccatcaaaggaagcacctgtacaag 1797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2158 aggtaccagaagaagtagaaggtacccgcagaagtagaagaagtggaagaggtaccag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2098 aggtacctgcagaagtagaagtagaagtggaagaggtacctgcagaagtagaagaagtggaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2278 cagaagaagtggaagaagtggaagtagaagtagaagtagaggtaccagcggtagtagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2398 aggaagaaccagtagaggaagaagatgtattacaattagtaataccatcggaagaagata
                                                                                                                                                                                                                                     taccagtggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaactccaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         F22K18.170, partíal cds.
AF413055
AF413055.1 GI:18001268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mays
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Db 129900 TA 129899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2458 ta 2459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Zea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 8
AF413055/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                                            1678
                                                                                                                                                                                                                                     1798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QQ
                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                           οy
                                                                                                                                                                         ò
                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Óγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1498 tecaattagaagaaceateaggaagaaggagaagggaaaggagaaggaggaagggaaggag 1557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tagaggcaactccagaggatgatttcgcattagatggaactacattagaagaaaccgaag 1377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1378 aaactgcagaaggagagaaaccgtagaggagagaaaccgtagagggagagaaaccg 1437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy 1258 aaacagaagaagctgcagaaggagagagagtatcagaagaaactccagaaggagaagaagagt 1317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1198 atggatttegcattagacgaaactgcagaaggagaaacagaagaacgtagagggagaag 1257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       aaggagaagcgttagtagcagtgccagtagtggccgaaccggtagaagtagtgactcctg 1617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tagagggagaagaagctgcagaaggagaagaagattagaggcaactccagaggatgact
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 144505;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5;
108060 128825: contig of 20766 bp in length 128926 128925: gap of 100 bp 128926 132040: contig of 3115 bp in length 132041 132140: gap of 100 bp 132141 144505: contig of 12365 bp in length. Location/Qualifiers 1. Ja44505 //db_xref="taxon:9606" //db_xref="taxon:9606" //db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          910 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 9.2%; Score 307.8; DB 2; Best Local Similarity 52.8%; Pred. No. 2.5e-35; Matches 666; Conservative 0; Mismatches 594;
                                                                                                                                                                                                                              vector_side.left"
7034. .28893
7034. .28893
7034. .28893
7052. .28994. .31651
7052. .31651
7052. .31651
7052. .31651
7052. .31651
7052. .31651
7052. .31651
7052. .31651
7052. .31651
7052. .31651
7052. .31651
7052. .31651
7052. .31651
7052. .31651
7052. .31651
7052. .31651
7052. .31651
70559
70559
70559
70559
70559
70560. .128825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /note="assembly_fragment:03692"
132141. 144505
/note="assembly_fragment:02616
                                                                                                                                                                      /clone_lib="CHORI-501"
1. .6933
/note="assembly_fragment:03532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="assembly_fragment:00319
fragment_chain:2"
128926. .132040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          vector_side:right"
a 37728 c 36255 g 34881 t
                                                                                                                                                         /clone="XXbac-300A18"
                                                                                                                                                                                                                       clone_end:SP6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           clone_end:T7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        34731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1438
                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
```

2157

2457

```
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                             AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
AUTHORS
                                                                                                                                                                                                                                          ACCESSION
                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                AC011767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMMENT
                                                                                                                                                                RESULT
                                                          g
                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                            2 (pases 1 to 1902)
Ananiev,E.V., Lorentzen,J. and Bruggemann,E.
Direct Submission
Submitted (24-Aug.) Molecular Genetics, Pioneer Hi-Bred, 62-nd
Avenue, Johnston, IA 50131, USA
Location/Qualifiers
           Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; PACC clade; Panicoideae; Andropogoneae; Zea.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2172 gtagaagagtacccgcagaagtagaagtagaagtggaagaggtaccagaagaagtggaagag 2231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2232 gtaccagaagaagtggaagagtaccagaagagtggaagaggtaccagaagaagtggaa 2291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gaagtggaagaagtagaagtagaggtaccagcggtagtagaagtagaagtaccagcg 2351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gtagtagaagaagagtgccagaagaagtagaagaagaagaagaagaagaagaaccagta 2411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ttagaaggaactgcagaagctccagaggaaggagtaattagtattagaaggagaaggagaa 1931
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1932 ccaacggaagaagagccaagagaaggagagccaacagaaggagagagagtgccagaagaagaa 1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1992 ttagaggcaactccagaggacgatttcgaattagaagaaccaacaggagaagaagtagaa 2051
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2112 gtagaagaagtggaagaggtacctgcagaagtagaagaagtggaagaggtaccagaagaa 2171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /product-"putative protein F22K18.170"
<1818. .>1890
/note-"similar to hypothetical protein F22K18.170 of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 1902;
                                                                                                                                                                                                           1. .1902
/organism="zea mays"
/db_traxon:4577"
179. .781
/note="CTT long trinucleotide tandem repeat"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                          1 (bases 1 to 1902)
Ananiev,E.V., Lorentzen,J. and Bruggemann,E.
Microsatellite megatracts in the maize (Zea mays
                                                                                                                                                                                                                                                                                                                                                                                                                                                     /translation="IGLLVRCSHCSICPNCVERFDHHC"
                                                                                                                                                                                                                                                                                                                                                                                                        /product="putative protein F22K18.170"
/protein_id="AAL55292.1"
/db_xref="G1:18001269"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            198;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9.2%; Score 307.2; DB 8 ilarity 68.3%; Pred. No. 3.6e-35; Conservative 0; Mismatches 198
                                                                                                                                                                                                                                                                                                                                                                             Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   281 9
                                                                                                                                                                                                                                                                                     /rpt_type=tandem
/rpt_unit=ctt
<1818. .>1890
                                                                                                                                                                                                                                                                                                                                                                                           /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     504 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                      Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   318
                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            426;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Loca
Matches
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BASE COUNT
                                                                      AUTHORS
TITLE
                                                                                                      JOURNAL
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1872
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2352
                                                                                                                                                                                                                                                                                                                   mRNA
                                                           REFERENCE
                                                                                                                                    AUTHORS
                                                                                                                                                                   JOURNAL
                                                                                                                                                                                              FEATURES
                                                                                                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      염
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
```

```
The properties of the control of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACO11767 215046 bp DNA linear HTG 08-JUL-2001
Homo sapiens chromosome 15 clone RP11-26F2 map 15, WORKING DRAFT
SEQUENCE, 54 unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 215046)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Research
                                                                                                                                                                                                           2412 gaggaagaagatgtattacaattagtaataccatcggaagaagatatacaattagacaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Insert size: 188000; agarose-fp
Insert size: 209746; sum-of-contigs
Quality coverage: 11.4 in Q20 bases.
* NOTE: This is a "working draft" sequence. It currently
* consists of 54 contigs. The true order of the pleces
* is not known and their order in this sequence record is
* arbitrary. Gaps between the contigs are represented as
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Center: Whitehead Institute/ MIT Center for Genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Center Clone name: 26_F_2
Sequencing vector: M1; M77815; 50% of reads
Sequencing vector: M1; M77815; 50% of reads
Sequencing vector: Plasmid; n/a; 50% of reads
Chemistry: Dye-primer-amersham; 1% of reads
Chemistry: Dye-terminator Big Dye; 99% of reads
Assembly program: Phrap; version 0.960731
Consensus quality: 200692 bases at least Q30
Consensus quality: 200692 bases at least Q30
Consensus quality: 205458 bases at least Q20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Contact: sequence_submissions@genome.wi.mit.edu
------ Project Information
Center project name: L1392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Birren, B., Linton, L., Nusbaum, C. and Lander, E. Homo sapiens chromosome 15, clone RP11-26F2 Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HTG; HTGS_PHASE1; HTGS_DRAFT; HTGS_FULLTOP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Center code: WIBR
Web site: http://www-seq.wi.mit.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 --- Genome Center
                                                                                                                                                                                                                                                                                                                    2472 ccaaagaaagacgaattaggctct 2495
                                                                                                                                                                                                                                                                                                                                                                           197 GAAGAAGAAGAAGAAGATTI 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AC011767.5 GI:14626907
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
```

100 bp 3454 bp in length

```
399 gaagacgatgaggaagtcaacgaaacgttagatggaggtgaatcattaggagagagtttcc 458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30.275: gap of 15.275 bp. in length 13.00 bp. 10.125: gap of 10.0 bp. 10.0 
                                                                                                                                        1672: gap of 100 bp 63511: contig of 1839 bp in length 64521: gap of 100 bp 66527: contig of 916 bp in length 64527: gap of 100 bp 66684: contig of 2057 bp in length 65784: gap of 100 bp 66609: contig of 1825 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            182: gap of 100 bp 78231: contig of 1849 bp in length 331: gap of 100 bp 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    70696: gap of 100 bp 72728: contig of 2032 bp in length 72828: gap of 100 bp 76282: contig of 3454 bp in length
                                  60019; contig of 1822 bp in length
19; gap of 100 bp
61572; contig of 1453 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                        100 bp 105 of 108 pp 10596: contig of 1887 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /clone_lib="RPCI-11 Human Male BAC"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ouery Match
9.1%; Score 304; DB 2; I
Best Local Similarity 47.5%; Pred. No. 8.6e-35;
Matches 969; Conservative 0; Mismatches 1065;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   vector_side.left"
23539 .24096
/note="assembly_fragment"
24197 .24746
/note="assembly_fragment"
2487 .25309
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="assembly_fragment"
29391. .30194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 25410. .26051
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     26152. .27047
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7148. .27754
'note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   note="assembly_fragment"

    . 23438
    /note="assembly_fragment clone_end:SP6

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Homo sapiens"
/db_xref="taxon:9606"
/chromosome="15"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /clone="RP11-26F2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              110014 120982
120983 121082:
121083 132369:
132370 132469:
132470 151295
151296 151395:
151396 151395:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01026 101125:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             177433 177532:
177533 215046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     90280 90379:
90380 10102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  76383 782:
78232 78331:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        84931 85030:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            76283 76382
                                                                                                                                                                                                                                                                                            64627
                                                                                                                                                                                                                                                                                                                                                                    66784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             á
runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will
                                                                                                                                                                                                                                                                                                                                                                                          10 25409; gap of 100 bp 25051; contig of 642 bp in length 22 25151; gap of 100 bp 100 bp 27047; contig of 696 bp in length 100 bp 27147; gap of 100 bp 100 b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0: gap of 100 pp
1074: contig of 854 bp in length
14: gap of 100 bp
101.contig of 1092 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100 bp 1... 757 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           contig of 1534 bp in length of 100 bp contig of 1504 bp in length contig of 1504 bp in length
                                                                                                                                               23438: contig of 23438 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100 bp
1205 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100 bp
1411 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100 bp
1683 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100 bp
1039 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               p of 100 bp contig of 1106 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .00 bp
1046 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           of 100 bp
contig of 1123 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1089 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100 bp
1032 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   34: gap of 100 bp
48609: contig of 1375 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100 bp
1101 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       67: gap of 100 bp 54859: contig of 1292 bp in length
                                                                                                                                                                      23439 23538: gap of 100 bp 24539 24995: contig of 558 bp in length 24097 24197 24197 24197 24846: gap of 100 bp 24747 24846: gap of 100 bp 24747 24846: gap of 100 bp 24847 25309: contig of 463 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30797; gap of 100 bp
31446: contig of 649 bp in length
31546; gap of 100 bp
32368: contig of 822 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        36855: contig of 863 bp in length
55: gap of 100 bp
37837: contig of 882 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       p of 100 bp contig of 857 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      p of 100 bp contig of 804 bp in length p of 100 bp contig of 403 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100 bp
616 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  bp
8 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100 bp
647 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           09: gap of 1
50120: contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          77: gap of 35035: contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          28643: gap of 1
29290: contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gap of 38976:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ..... gap of
43508: cor+'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       102: gap of
47134: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      294: gap of 30697: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               42285; con+
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       797: gap of
46002: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              55: gap of
37837: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           40033; gap of
41139; cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  33561: gap of 34177: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  29390: gap of
30194: con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           35135: gap of
35892: con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      35992: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       93: gap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             39933:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            44697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         53467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               46102:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   52366:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              32468:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   43608:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              30294:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       41239:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   50220:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       54959:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           42385:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       47234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              36955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          39076
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               48709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           51174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      37937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           44797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       56593
                                                                                                             preserved
```

5

Length 215046;

Indels

```
164582 GCAGGAGGAGCACATGGGGGAGCAGGAGCAGAATGCAGAAGCAGGAGGAGCAGAATGGG 164641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         164699 GGTGCAGAAGCAGGAGGAGGAGGTGCAAAAGCAGGAGGAGCAGATGCGGAAGCAGGAGGA 164758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                164759 GCAGATGCGGGAGCAGGAGGAGCAGATGCGGGAGCAGGAGGAGGAGAGAGTGCTGAAGCAGAA 164818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        164879 GGAGCAGGATGCGGGAGCAGGAGCAGATGCGGGAGCAGGAGGAGGAGCAGATGCGGGAGCA 164938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     164999 GCAGAAGGAGCAGATGTGGAAGCAGGAGCAAATGGGGGGAGCAGGAGGAGCAGAATGCA 165058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                165119 GCGGAAGCAGGAGCAGATGCGGAAGCAGGAGCAAATGGGGGAGCAGAAGGAGCA 165178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Db 165179 AATGGGGGAGCAGGAGGAGGAGTAGCGGGAGCAGGAGGAGCAATGGGGGAGCAGAAGGA 165238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         164282 GCGGGAGCAGGAGGGCAGGTGCGGAGCAGGAGGGGCAGGTGCGGGAGCAGGAGGGGCA 164341
                                                                                                                                                                                                                                      164402 GCAGGTGCGGGAGCAGGAGGGCCAGGTGCGGAGCAGGAGGGGCAGGTGCGGGAGCAGA 164461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ttaccagtggcagaagagcccgcgcaagtaccagcggaagaattagatgccactccagag 1058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ccagaaggagaagaagagttagaggcaactccagaggatgatttcgcattagatggaact 1358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gatttggaagcaggggaagaaactggcgatttggaagcaggggaagaaactggcgatttg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cctggtgatatggaaggaagaagaagctggcgatatggaagcaggggaagaagctggt
                                                                                                                                                                                                                                                                                                                                                  ggggaagaaactggagatgcggaaactgaaggaagcaactggagatgcggaaactgaa
                                                                                                                                                                                                                                                                                                                                                                                    164522 GGAGGGCAGGTGCGGGAGCAGGGGCAGATGGGGGGAGCAGGAGGGCCAGATGGGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                        759 aatggagcaactgtgtatgtagacacagaagatagttcagctgatggagcagaaaagta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 catgttcctgctcaagaaaatgtacaacctgccgatagtaatgatgcctctttggaagt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      879 attttggataaagatataatttttgatcatattaaagatttcgagccactattcgaacaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gatgacttcgcattagatgttacagaatctcccgaggaagtagaattagtattagatgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gaggcaactgaagaagtcaacggaagtgggaccaacggaagaaggaccaaccgaagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     164939 GGAGGAGCAGATGGGGAAGCAGGAACAGATGTGGGAGCAGAAGGAGGAGCAAATGTGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1179 ttagatgccactccagaggatggatttcgcattagacgaaactgcagaaggagaaacaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1239 agaaacgtagagggagagaagaacagaagaagctgcagaaggagaagtatcagaagaaact
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gtagaggagaagaaaccgtagagggagaagaagctgcagaaggagaagaagttagag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               attgtggcgggtactgctaaacatgttacgggacaagaattgccaatgaaacctgtacca
                                                     459 actgaagatatggaaacagaagatggctcaacagatgatacggaaacagaagaaggacta
                                                                                                                             519
                                                                                                                                                                                                                                                                                                                                                  669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               819
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1419
                 g
                                                                                       q
                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                       ò
                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                             ð
                                                                                                                                                                                                   ŏ
                                                                                                                                                                                                                                                                                                                                                οy
                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                            õ
```

```
ACO44842 172307 bp DNA linear HTG 25-JUN-2000 Homo sapiens chromosome 2 clone RP11-178E20 map 2, WORKING DRAFT SECOURCE, 23 unordered pieces.
                                                                                                                                                                                                                                                                                                                                     165599 AATGGGGGAGCAGGAGCAGATGCGGAAGCAGGAGCAGCAGGAGCAGGAAAAGCAGGAGGA 165658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                165299 GGAGCAGATGCGGAAGCAGGAGGAGCAGATGCGGAAGCAGGAGGAGCAGATGGGGGAGCA 165358
                                                                                                                                                                         165539 GGGGGAGCAGAAGGAGCAGATGCGGAAGCAGGAGCAAAATGGGGGAGCAGGAGGAGCA 165598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          165956 GGGGGAGCAGGAGGAGATGCTGAAGCAGGAGGAGCAGATGCGGAAGCAGGAGGAGCA 166015
                                                                                           1599 gtagaagtagtgactcctgctcagcctgtcaaaccaatggtcgctccaacggcagatgaa 1658
                                                                                                                                                   1659 actttattcgttgatatcttagataacgatttaacgtatgcagacattacatcctttgag 1718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2319 gtaccagoggtagtagaagtagaagtaccagoggtagtagaagaagaaggtgccagaagaa 2378
                              DD 165719 GCAGGTGGGGGAGCAGGAGGAGAGAGAGAGAGAGAGAAGAAGAGGGGGAGCAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                              gagccaacagaaggaagtgccagaagaagaattagaggcaactccagaggacgatttc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2019 gaattagaagaaccaacaggagaagaagtagaagaagcagaagggcgaagaaactgca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DD 166136 GAAGCAGGAGCAGATGGGGGAGCAGGAGGAGCAGATGGGGAAGCAGCAGGAGATG
                                                                                                                      165419 GCAGGAGAAGCAGATGCTGAAGCAGAAGGAGCAGATGGGGGAGCAGGAGGAGCAGGATGGG
                                                                                                                                                                                                                ccattatttaaacaaatcctcaaggatcctgatgcaggagagggtgtaacagtaccatca
                                                                                                                                                                                                                                                                              aaggaagcacctgtacaagtaccagtggcagtagggcccgcgcaagaagtgccaacggaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2079 gaaggagaagaagtggaagagtacctgcagaagtagaagaagtggaagaggtacctgca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2199 gaagtggaagaggtaccagaagaagtggaagaggtaccagaagagtggaagaggtacca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AC044842
AC044842.2 GI:8705156
HTG; HTGS_PHASE1; HTGS_DRAFT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                              1539
                                                                                                                                                                                                                 1719
                                                                                                                                                                                                                                                                                                                                                                                                   1899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                1959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 1
AC044842
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                         pp
                                                                                                                                                                                                                                                                                                                                                                     Pp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                        Q
                                                                                                                                                    δy
                                                                                                                                                                                 q
                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
```

```
54 36953; gap of 100 bp 141270; contig of 4317 bp in length 141370; contig of 4317 bp in length 141370; gap of 100 bp 141370; gap of 100 bp 15761; contig of 10736 bp in length 166 57801; contig of 10736 bp in length 167879; contig of 100 bp 10 length 167879; contig of 100 bp 10 length 167979; gap of 100 bp 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  137308 153745: contig of 16438 bp in length 153746 153845: gap of 100 bp 153846 172307: contig of 18462 bp in length. Location/Qualiflers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1487: gap of 100 bp 137207: contig of 15720 bp in length 13707: 390 of 100 bp 153745: contig of 16438 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  79: gap of 100 bp 78235: contig of 10256 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               p of 100 bp contig of 10841 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  89177 89276; gap of 100 bp
89277 106081: contig of 16805 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               106082 106181: gap of 100 bp
106182 121387: contig of 15206 bp in length
                                                                                                                                                                                               15345 17344: contly of 2000 bp in length 17345 17444; gap of 100 bp 17445 21830: contly of 4386 bp in length 21831 21930: gap of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                               25081: contig of 3151 bp in length
81: gap of 100 bp
29736: contig of 4555 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                29836: gap of 100 bp
36853: contig of 7017 bp in length
                                                                                                                                                 44: gap of 100 bp
17344: contig of 2000 bp in length
                                                                                                  15244: contig of 3225 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /clone_lib="RPCI-11 Human Male BAC"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                // 2022. .3689 // 2022. .3689 // 2022. .3689 // 2022. .3790. .3790. // 2022. .8134 // 2022. .8134 // 2022. .8134 // 2022. .91319 // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. // 2022. 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12020. .15244
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17445. .21830
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21931. .25081
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           36954. .41270
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15345. .17344
/note="assembly_fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="assembly_fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1. 172307
/organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /clone="RP11-178E20"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        vector_side:right"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               vector_side:left"
120. .1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gap of
                                                        gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /chromosome="2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               clone_end:SP6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           clone end:T7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   106182 12138
121388 121487:
121488 13720
137208 137307:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           67980 7823
78236 78335:
78336 8917
                                                   11920 12019:
                                                                                                                                                      15245 15344:
                                                                                                                                                                                                                                                                                                                                                                                                                                                        25181:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  67880 67979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                         Unpublished

Sabriens cnromosome 2, Cione KPII-1/8E2U

Unpublished

Sabrien, B. Linton, L., Nusbaum, C., Lander, E., Abraham, H., Allen, N., Anderson, S., Baldwin, J., Barraa, N., Bastien, V., Beda, F., Baldwin, J., Barraa, N., Bastien, V., Beda, F., Campoplano, A., Castle, A., Choepel, Y., Colangelo, M., Collins, S., Campoplano, A., Cooke, P., DeArellano, K., Dewar K., Diaz, J. S., Dodge, S., Domino, M., Ferreira, P., Eitzhugh, W., Gage, D., Galagan, J., Gardyna, S., Ginde, S., Goyette, M., Graham, L., Karatas, A., Klein, J., Lakocque, K., Langos, B., Heaford, A., Horton, L., Kaln, J., Lakocque, K., Lamazares, R., Landers, T., Lehocky, J., Kelin, J., Macconald, P., Marquis, N., McDan, J., McConald, P., Marquis, N., McDan, J., McConald, P., McGurch, J., Marchy, M., McEwan, P., McGurch, R., Mihova, T., Mihova, T., Mihova, T., Mirada, C., Mlenga, V., Morrow, J., Wurphy, T., Naylor, J., Norman, C.H., O'Connor, T., O'Donnell, P., O'Neil, D., Ollvar, T.M., Ollvar, J., Peterson, K., Plarre, N., Stange-Thomann, N., Stojanovic, N., Severy, P., Spencer, B., Stange-Thomann, N., Stojanovic, N., Subramanian, A., Tralamas, J., Volanovic, N., Subramanian, A., Travers, M., Tristillo, J., Volanovic, J., Stolanovic, J., S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Submitted (12-14PR-2000) Whitehead Institute/MIT Center for Genome Research, 320 Charles Street, Cambridge, MA 02141, USA On Jun 25, 2000 this sequence version replaced g1:7543808.
All repeats were identified using RepeatMasker:
Smit, A.F.A. & Green, P. (1996-1997)
http://ftp.genome.washington.edu/RM/RepeatMasker.html
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 17307) Birren, B., Linton, L., Nusbaum, C. and Lander, E. Homo, sapiens chromosome 2, clone RP11-178E20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Center: Whitehead Institute/ MIT Center for Genome Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NOTE: This is a 'working draft' sequence. It currently consists of 23 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Insert size: 171000; agarose-fp
Insert size: 170107; sum-of-contigs
Quality coverage: 3.7 in Q20 bases; agarose-fp
Quality coverage: 3.7 in Q20 bases; sum-of-contigs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Center clone name: 170.5.

Center clone name: 170.5.

Sequencing vector: M13, M78815; 100% of reads
Sequencing vector: M13, M78815; 100% of reads
Chemistry: Dye-terminator B19 Dye: 100% of reads
Assembly program: Phrap; version 0.960731
Consensus quality: 156689 bases at least Q40
Consensus quality: 167863 bases at least Q20
Consensus quality: 167863 bases at least Q20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Center code: WIBR
Web Site: http://www-seq.wi.mit.edu
Contact: sequence_submissions@genome.wi.mit.edu
------ Project Information
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19: contig of 19 bp in length
gap of 100 bp
921: contig of 1802 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             p of 100 bp contig of 1668 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                of 100 bp
contig of 2742 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6532 6631: gap of 100 bp
6632 8134: contig of 1503 bp in length
8135 8234: gap of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20 119: gap of 100
120 1921: contig of
1922 2021: gap of 10
2022 3689: contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Center project name: L9002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9: gap of
6531: con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3690 3789:
                                                                                                  REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                              JOURNAL
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                AUTHORS
```

```
4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      38105 CAGTAGCTGTGGCAGGAGGAGTAGCAGCAGCAGCAGTTGCCGTAGCTGTGGCAGGAGGAG 38164
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          38165 TAGCAGCAGCAGCAGTTGCCGTAGCTGTGGCAGGAGGAGTAGCAGCAGCAGCAGTTGCC- 38223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             38282 TAGCAGCAGCAGCAGTTGCAGTAGCTGTGGCAGGAGTAGCAGCAGCAGCAGCAGTGCAGTTGCAGTAG 38341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              38342 CTGTGGCAGGAGGAGTAGCAGCATCAGCAGTTGCAGTAGCTGTGGCAGGAGGAGGAGTAGCAG 38401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               38522 TTGCAGTAGCTGTGGCAGGAGGAGTAGCAGCATCAGCAGTTGCAGTAGCTGTGGCAGGAG 38581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                38582 GAGTAGCAGCATCAGCAGTTGCAGTAGCTGTGGCAGGAGGAGTAGCAGCATCAGCAGTTG 38641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  38045 ATACTTACATGAGCAGTGCAGTAGCAGCGGCAGTAATAGTAGTAGTAGTAGCAGCAGTTG 38104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         --GTAGCTGTGGCAGGAGGAGTAGCAGCAGCAGTTGCCGTAGCTGTGCCAGGAGGAG 38281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CATCAGCAGTTGCAGTAGCTGTGGCAGGAGGAGTAGCAGCATCAGCAGTTGCAGTAGCTG 38461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                38462 TGGCAGGAGTAGCAGCAGCAGTTGCAGTAGCTGTGGCAGGAGTAGCAGCATCAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         340 atgaaactcttttagatgctaccccgaagatgactttgccttaacagatttgccaattg 399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                aagcaggggaagaagctggtgatttggaagcaggggaagaagcagctggcgatttggaagcag 699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ttttggataaagatataatttttgatcatattaaagatttcgagccactattcgaacaaa 939
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     280 atccttcaaaacgacggtttagaattagaagaagaaaattttgatgagaattcaggtgatg 339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ---ttgtggcgggtactgctaaacatgttacgggacaagaattgccaatgaaacctgtac 996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ctgaagatatggaaacagaagatggctcaacagatgatacggaaacagaagaaggactac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  atggagcaactgtgtatgtagacacagaagatagttcagctgatggagcagaaaagtac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      atgttcctgctcaagaaaatgtacaacctgccgatagtaatgatgccctctttggaagta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gggaagaaactggagatgcggaaactgaagaaggaggaactggagatgcggaaactgaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAGTAGCTGTGGCAGGAGGAGTAGCAGCTGTTGCAGTAGCTGTGGCAGGAGTAGCAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           aagacgatgaggaagtcaacgaaacgttagatggaggtgaatcattaggagaggttcca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ctggtgatatggaaaggaagaagaagctggcgatatggaagcaggggaagaagctggtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              atttggaagcaggggaagaaactggcgatttggaagcaggggaagaaactggcgatttgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 9.0%; Score 299; DB 2; Length 172307; Best Local Similarity 47.3%; Pred. No. 4.5e-34; Matches 1032; Conservative 0; Mismatches 1140; Indels 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2208 others
                                                                                                                                                                                                                                                                                                                                                                                                                                       ture 15346. 172307

A1249 a 40378 c 41592 g 43880 t
41371. .46765
/note="assembly_fragment"
/46866. 57702.
/note="assembly_fragment"
/note="assembly_fragment"
67980. .78235
/note="assembly_fragment"
67980. .78235
/note="assembly_fragment"
          misc_feature
                                                            misc_feature
                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                           misc_feature
                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            38402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       38642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             å
```

```
TGGCAGGAGGAGTAGCAGTTGCAGTAGCTGTGGCAGGAGGAGTAGCAGTTGCAG 38941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          38942 TAGCTGTGGCAGGAGGAGTAGCAGCAGCAGTTGCAGTAGCTGTGGCAGGAGGAGTAGCAG 39001
                                                                                                                                                                                                                                                                                                                        39422 CAGCAGCAGCAGTTGCAGTAGGTGTGGCAGGAGGAGTAGCAGCAGCAGCAGTTGCAGTAG 39481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             39602 CAGGAGGAGTAGCAGCATCGGCAGTTGCAGCAGCTGTGGCAGGAGGAGTAGCAGCATCGG 39661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          aagaggcaactgaagaagtaacggaagtgggaccaacggaaggaccaagcgaag 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1414 aaaccgtagaaggaagaagaaaccgtagaggagaagaagctgcagaaggagaagaagagt 1473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        atgaaactttattcgttgatatcttagataacgatttaacgtatgcagacattacatcct 1713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1714 ttgagccattatttaaacaaatcctcaaggatcctgatgcaggagaggctgtaacagtac 1773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cggaagaattgatgcaactccaagaggacgatttcgaattagaaggaactgcagaagctc 1893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            39722 GAGTAGCAGCAGCAGCAGTTGCAGTAGCTGTGGCAGGAGTAGCAGCAGCAGCAGTTGCAG
                                                                                                              1057 aggatgacttcgcattagatgttacagaatctcccgaggaagtagaattagtattagatg
                                                                                                                              aattagatgcactccagagatg--gatttcgcattagacgaaactgcagaaggagaaa
                                                                                                                                                                                                                                                                                                       cagaag-aaacgtagaggagagaagaacagaagctgcagaaggaggaagtatcagaag
                                                                                                                                                                                                                                                                                                                                                                       aaactccagaaggaagaagaagttagaggcaactccagaaggatgatttcgcattagatg
                                                                                                                                                                                                                                                                                                                                                                                                                                    gaactacattagaagaaaccgaagaaactgcagaaggagaagaagccgtagagggagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                               39122 CAGTTGCAGCAGCTGTGGCAGGAGTAGCAGCATCGGCAGTTGCAGCAGCTGTGGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1474 tagaggcaactccagaggatgacttccaattagaagaaccatcaggagaaggagaagggg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        aaccggtagaagtagtgactcctgctcagcctgtcaaaccaatggtcgctccaacggcag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     catcaaaggaagcacctgtacaagtaccagtggcagtagggcccgcgcaagaagtgccaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cagaggaaggaatttagtattagaaggaagaaggagaaccaacggaagaagagccaagag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1954 aaggagagccaacagaaggagagagtgccagaagaagaattagaggcaactccagaggacg
                                                cattaccagtggcagaagacccgcgcaagtaccagcggaagaattagatgccactccag
                                                                                                                                                                                                                                         1177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1774
               38702
                                                                                                                                                                            1117
                                                                                                                                                                                                          38882
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1834
                                                                                                                                                                                                                                                                                                                                                                                                                                    1354
                                                                                                                                          q
                                                                                                                                                                                                                                                                       Db
                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                            δ
                                                                                                                                                                            ò
                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                   엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                              ò
                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
```

q

g

ò

g

ò

셤

ò

QQ

ò

a

ò

硆 ò q

ò

```
Db 131759 GGAGCAGGAGGGCAGGTGCGGGAGCAGGAGGGGGCAGGTGCGGGAGCAGGAGGGGCAGGT 131818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   131819 GCGGGAGCAGAGGGGCAGATGGGGGAGCAGGGGGCAGATGGGGGGAGCAGGAGGAGCA 131878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 131939 GCAGATGCGGAAGCAGGAGGAGCAGATGGGGGAGCAGGAGGAGCAGCTGCAGAAGCAGGA 131998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              131999 GGAGCAGGTGCAAAAGCAGGAGGAGCAGATGCGGAAGCAGGAGGAGGAGCAGATGCGGGAGCA 132058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        132059 GGAGGAGCAGATGCGGGAGCAGGAGGAGCAGATGCTGAAGCAGAAGGAGCAGACGGAGCA 132118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 132179 GATGCGGGAGCAGGAGCAGAGCAGATGCGGGAGCAGGAGCAGATGCGGGAGCAGGAGGA 132238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                132239 GCAGATGGGGAACCAGGAGGACAGATGTGGGAGCAGAAGGAGCAAATGTGGGAGCAGAA 132298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             699 ggggaagaaactggagatgcggaaactgaagaaggagcaactggagatgcggaaactgaa 758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       819 catgttcctgctcaagaaaatgtacaacctgccgatagtaatgatgccctctttggaagt 878
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  939 attgtggcgggtactgctaaacatgttacgggacaagaattgccaatgaaacctgtacca 998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    399 gaagacgatgaggaagtcaacgaaacgttagatggaggtgaatcattaggagaggtttcc 458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             759 aatggagcaactgtgtatgtagacacagaagatagttcagctgatggagcagaaaagta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        879 attttggataaagatataaatttttgatcatattaaaagatttcgagccactattcgaacaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           519 cctggtgatatggaaggaagaagaagctggcgatatggaagcagggaagaagctggt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     579 gatttggaagcaggggaagaactggcgatttggaagcaggggaagaaactggcgatttg
                                                                                                                                                                                                                            arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  639 gaagcaggggaagaagctggtgatttggaagcaggggaagaaactggcgatttggaagca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              459 actgaagatatggaaacagaagatggctcaacagatgatacggaaacagaagaaggacta
                                                                                                                                                       NOTE: This is a 'working draft' sequence. It currently consists of 5 contigs. The true order of the pieces is not known and their order in this sequence record is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 142277;
      Contact: sequence_submissions@genome.wi.mit.edu
                                                                                                                                                                                                                                                                                                                                                                                                                  1 24412: contig of 24412 bp in length 24413 24512: gap of 100 bp 4513 4514: contig of 22436 bp in length 46949 47048: gap of 100 bp 47049 103797: contig of 56749 bp in length 103798 103897: gap of 100 bp 103898 126433: contig of 22436 bp in length 126334 126433: gap of 100 bp 126434 142277: contig of 15844 bp in length.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /clone_lib="RPCI-11 Human Male BAC"
39176 a 32698 c 33584 g 36253 t 566 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 294.6; DB 2; Length
Pred. No. 2e-33;
0; Mismatches 1049; Indels
                             Center project Information
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1. .142277
/organism-"Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /clone="RP11-25C1"
                                                                                                  Center clone name:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches 932; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Birren, B., Linton, L., Nusbaum, C., Lander, E., Allen, N., Anderson, M., Baldwin, J., Barna, N., Beckerly, R., Boguslavkiy, L., Boukhgalter, B., Brown, A., Castle, A., Colangelo, M., Collins, S., Collymore, A., Cooke, P., DeArellano, K., Dewar, K., Domino, M., Donelan, L., Doyle, M., Ferreira, P., FitzHugh, W., Forrest, C., Funke, R., Gage, D., Galagan, J., Gardyna, S., Grant, G., Hagos, B., Heaford, A., Horton, L., Howland, J.C., Johnson, R., Jones, C., Kann, L., Karatas, A., Klein, J., Lehoczky, J., Lieu, C., Locke, K., Macdonald, P., Marquis, N., McEwan, P., Nacurk, A., McKernan, K., McLaughlin, J., Meldrim, J., Peterson, K., Pollara, V., Riley, R., Roy, A., Santos, R., Severy, P., Stange-Thomann, N., Stojanovic, N., Subramanian, A., Talamas, J., Tesfaye, S., Tirrell, A., Vassiliev, H., Vo, A., Wheeler, J., Wu, X., Myman, D., Ye, W.J., Zimmer, A. and Zody, M., Wheeler, J., Wu, X.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HTG 11-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (23-NOV-1999) Whitehead Institute/MIT Center for Genome Research, 320 Charles Street, Cambridge, MA 02141, USA On Feb 11, 2002 this sequence version replaced 91:14209777. All repeats were identified using RepeatMasker: Smit, A.F.A. & Green, P. (1996-1997) http://ftp.genome.washington.edu/RM/RepeatMasker.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 142277)
39782 TAGCTGTGGTAGGAGTAGCAGCATCAGCAGTTGCAGTAGCTGTGGCAGGAGGAGTAGCAG 39841
                                                        40082 TTGCAGTAGCTGTGGCAGGAGGAGTAGCAGCATCAGCAGTTGCAGTAGCTGTGGCAGGAG 40141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            40142 TAGCAGCATCGGCAGTTGCAGCAGCTGTGGCAGGAGGAGTAGCAGCATCGGCAGTTGCAG 40201
                                                                                                                                                                                                                                                                                                                                                                                                                                         2254 taccagaagaagtggaagagtaccagaagaagtggaagaagtggaagtagaagtagaag 2313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ------ Genome Center
Center: Whitehead Institute/ MIT Center for Genome Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACUID204 142277 bp DNA linear HTG Il-FEI
HOMO Sapiens clone RP11-25C1, *** SEQUENCING IN PROGRESS ***,
Unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2374 aagaagtagaagaagaagaagaagaagaagaaccagtagaggaagaagatgtattacaat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tagaggtaccagcggtagtagaagtagaagtaccagcggtagtagaagaagaggtgccag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        40022 GAGGAGTAGCAGCATCAGCAGTTGCAGTAGCTGTGGCAGGAGGAGGAGTAGCAGCATCAGCAG
                                                                                                                                                                                     2134 ctgcagaagtagaagaagtggaagaggtaccagaagaagtagaagaaggtacccgcagaag
                                                                                                                                                                                                                                                                                                               2194 tagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HTG; HTGS_PHASE1; HTGS_FULLTOP; HTGS_ACTIVEFIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Birren, B., Linton, L., Nusbaum, C. and Lander, E. Homo sapiens chromosome, clone RP11-25C1 Uppblished
2 (bases 1 to 142277)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Center code: WIBR
Web site: http://www-seq.wi.mit.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         40202 CAGCTGTGGCAGGAGTAG 40222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2434 tagtaataccatcggaagaag 2454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AC016204.6 GI:18644852
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ношо
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
TITLE
JOURNAL
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 1
AC016204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMMENT
```

ï

Gaps

4;

us-09-667-130-1\_1.rge

								SOURC		AUT		REFEI AUT TIT	REFEI		REPER		COMMI
		gaggcaactgaagaagaatcaacggaagtgggaccaacggaaggaccaaccgaagaa 1178 	ttagatgocactccagaggatggatttcgcattagacgaaactgcagaaggagaaacaga 1238 	1239 agaaacgtagaggagaagaaacagaagaagctgcagaaggagaagtatcagaaga 1294 	aactccagaaggagaagaagttagaggcaactccagaggatgatttcgcattagatgg 1354 	aactacattagaagaaaccgaagaaactgcagaaggagaagaaccgtagagggagaaga 1414 	1415 aaccgtagaggagaagaaaccgtagaggagaagaagctgcagaaggagaagaagagagt 1474 	1475 agaggcaactccagaggatgacttccaattagaagaaccatcaggagaaggagaagggga 1534 	1535 aggagaaggagaaggggaaggagaaggagaagcsttagtagcagtgccagtagtggccga 1594 	1595 accggtagaagtagtgactcctgctcagcctgtcaaaccaatggtcgctccaacggcaga 1654 	tgaaactttattcgttgatatcttagataacgatttaacgtatgcagacattacatcctt 1714 	1715 tgagccattatttaaacaaatcctcaaggatcctgatgcaggagggctgtaacagtacc 1774 	1775 atcaaaggaagcactgtacaagtaccagtggcagtagggcccgcgcaagagtgccaac 1834 	ggaagaattgatgcaactccaagagacgatttcgaattagaaggaactgcagaagctcc 1894 	1895 agaggaagaattagtattagaaggagaagagaaccaacggaagaagagacaagaga 1954 	aggagagccaacagaaggagaagtgccagaagaattagaggcaactccagaggacga 2014 	tttogaattagaagaaccaacaggagaagaagtagaagaaaccgtagagggcgaagaac 2074
132299 999 132359	13241.9	Oy 1119 9 Db 132479 G	Oy 1179 t Db 132539 G	Oy 1239 a	Oy 1295 a       Db 132659 P	Oy 1355 a       Db 132719 A	Oy 1415 a	Oy 1475 a	Qy 1535 a Db 132899 G	Qy 1595. a Db 132959 T	Qy 1655 t Db 133019 1	Qy 1715 t Db 133079 #	Qy 1775 a     Db 133139 A	Qy 1835 g Db 133199 A	Oy 1895 a       Db 133259 P	Qy 1955 a     Db 133319 A	

```
AF202180
Plasmodium falciparum erythrocyte membrane-associated glant protein antigen 332 gene, complete cds.
AF202180 AF3227072 AH010491 AF3233001 AF323000 AF322999
AF202180 3 GI:13508498
                                   malaria parasite P. falciparum.
Plasmodium falciparum
Eukaryota, Alveolata; Apicomplexa; Haemosporida; Plasmodium.
1 (bases 1 to 1637)
Shan, Z.X., Yu, X.B., Li, X.R., Ma, C.L., Fang, J.M., Lu, J.H. and X, J. Molecular cloning and structure analysis of the Plasmodium falciparum erythrocyte membrane-associated giant protein Ag332 (Pf332) gene
                                                                                                                                                                                                            133379 GGGAGCAGGAGCAGCAGATGTGGGAGCAGGAGCAGAGCGGAAGCGGGAAGCAGGAGCAGA 133438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 (bases 1 to 16377)
Shan,Z.X., Yu,X.B., Li,X.R. and Ma,C.L.
Direct Submission
Submitted (05-NOV-1999) Parasitology, Sun Yat-Sen University of Medical Sciences, 74 Zhongshan Road II, Guangzhou, Guangdong 510089, China
                                                                                                                                                                                      2195 agaagaagtggaagaggtaccagaagagtggaagagttaccagaagaagtggaagaggt 2254
                                                                                                                                                                                                                                                                   2255 accagaaagaagtggaagaggtaccagaagaagtggaagaagtggaagaagtagaagtagaagt 2314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Direct Submission
Submitted (08-DEC-2000) Parasitology, Sun Yat-Sen University of
Medical Sciences, 74 Zhongshan Road II, Guangzhou, Guangdong
510089, China
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ot
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 οţ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Direct Submission
Submitted (09-FEB-2001) Parasitology, Sun Yat-Sen University
Medical Sciences, 74 Zhongshan Road II, Guangzhou, Guangdong
510089, China
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Submitted (24-FEB-2001) Parasitology, Sun Yat-Sen University Medical Sciences, 74 Zhongshan Road II, Guangzhou, Guangdong 510089, China
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence update by submitter On Apr 2, 2001 this sequence version replaced gi:131111670 gi:12232085 gi:13177607 gi:12719373.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence update by submitter 4 (bases 1 to 16377)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence update by submitter 5 (bases 1 to 16377)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (bases 1 to 16377)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                         133739 AGGAG 133743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Shan, Z.X.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Shan, Z.X.
                                                                                                                                                                                                                                                                                                                                                                                                                    2375 agaag 2379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Shan, Z.X.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US
INITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ULT 12
02180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ERENCE
UTHORS
ITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OURNAL
ERENCE
UTHORS
ITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ERENCE
UTHORS
ITLE
OURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMARK
ERENCE
UTHORS
ITLE
OURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ESSION
SION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMARK
ERENCE
UTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ITLE
OURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMARK
MENT
```

```
LATYERVEEKSLTPIKLEEESVYKEYGETELSTOEVVDEKYSYTEEVTEERSSYSEE
LATYERVEEKSLTPIKLEEESVYKEYGETELSTOEVVDEKYSYTEEVTEEKSYSEE
ULEEGSATEEVVEEGSCTETYVEKGSDTELTVEEGSATELVYEEGSATEVVVEEGSVS
EEMLEEGSATEVVEEGSCTETYVEKGSDTELTVEEGSATELYVEEGSATEVVEEGSVS
EEMLEEGSATEVVEEGSSTELSTOEVOKSKGYTEEVTETTADIHTRGETE
FYNLIYEKINEVERAKFOEEKTENINEHPLEETKIEELPTETTTADIHTRGETE
TKYNLIYEKINEVERAKFOEEKTTENIPVERECHTEETKEELPTETTTADIHTRGETE
ESSSEIVEEESSSEIVEEESSSEIVEEESSSEIVEEFSTOETTEETVEEVSATEETVEE
ESSSEILVEEVSSTEEVTEEVTOEVTEEVKOTGSVSEEVLEEDEGFTEETVEEVSGTEETVE
SYSBEILVEEVSATELVEEGSTTEVANGETIVGEGEVAGETINEVGST
LOGGSANDELLEKESITVEEESTATEVANGETIVGEGESTOETVEE
SYSBEILVEEVSASEIVEEGSTEEVAGETIVTGSVSTEEV
LOGGSANDELLEKESITVEESSATELTVEESTATETVOEVSTEETV
FYNDITYTETKEENSTIERSTOETVEEVSTEEVAGETIVTGSVSTAETV
FYNDITYTETKEENSTIERSTOETVETTOEVOTTOEVT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /protein_id="AAP15293.3"
/db_xref="G1:13508497"
/tanslation="MKELESEEPKEKYNIEDMEETEKENEIEKIMDENKETEQTEEG
NTEEFVOEKELNOFTELENIELESTEPTELPWEELPIDEHLSSEETTVTEEDTFKGU
NEEVVEKELNOFTELENIETPLEEGVPKELPQEEIEEIVVEELPIDEHLSSEETTVTEEDTFKGQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QGSVVENVEEKKTMDEEIVDQGSVVENVEEKKTMDEEIGDQGSVAEKVEEEELVTEEV
IEREGSINBDIVKEASITEEVEDIEPVTGKVEKIESTTDEIKEQLVPEDIKEEQLDFE
ENAQRASVNDEKVEVASITEEVEEKSVEERSVAEEKSTTEKVVEEGSSTEVVVEE
QGSVSEEVLEEDGSTTTEVVEEQGSVTENLLEEESASQGIVEKEEFVDEEDSKROUN
FEKEGSVTEQLVEEEKGILINEDNEKEELITEMSEEIKSVNEEIEETDLSTEEIIKQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VAEETVEEEVSYDDK I IEBEVSYDEVVEEGGSVIEBTVEEEESVPEELLEEELGGSEE
VLEDEWYTDAFWGQEGSVIERIE ET VDGEGSTTEETVEDGSANEK IVEEEPSRYEEV

KREFVIEET IEBGSVIEGVOEDTKTVSEKSEESSAIEVKEVKEESISEK IVEKRES
VTEETVRQEEGSTTEK IVKDVSPTEEPVEOTDSVTEKVIEGGSSNTEVAEDVEKESAS
DEHEGEDVSVNAQVTCEKKSVTKEI VDEVSRTEEI VEENGSVTEGTGSTTESTEETIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INEEKPVEEKSVSEEIPVEEKSVSEEIPVEEKSVSEEIPVEEKNYSEEIPVEEKNYS
EIPVEEKNVSEEIPVEEENVSEEIPVEEENVSEEIPVEEENVSEEIPEGTAIEDVPV
DEETVTEEITVDEKIYDKLPNEIETVNEEMPVEDETLTEQISSEHERVPEEIIEEKPF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IESVTĒEIVEEGGSVNEEVEERSSVSGEVDĒTEYVTĒEVĒETEIVNEEVLKĒEGGSASĒ
KVVKEEGSASĒKIVĒEĒGSVTĒETASĒEIVĒĒEGSVTĒESSSEIVĒDĒGSSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EEIVEEEGSVIEESASEVIVEDEVSASKEIVEDEASVTEEVVEEGAVSDEVQYTESV
EDEIINQGIVDEVIVEQEASVTDEIVKEDESVIEEIAVEETVTEVVEETKPMDEEIVD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GSVVEEIVEEEGSVVEEIVEEEGSVVEEIVEEEGSVVEEIVEEEGSVVEEIVEEEGSVVEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IVEEBGSVVEEIVEEBGSVVEEIVEEBGSVSEVVDETELVNDEIVEGAPFTEEVEEDV
SVNDEIIBDASVAEAVREESESTIESVSOBEEFREKEY IEKVEETGAPFTEEIVOOLLIT
EELLEESESVAGEI INKESDABELLETERTE EVYGGAGSTSEEIVEEGGSVTEVEVEE
KESVTEELVDEGSVTEELVDEGSVTEEVVEGGGSIAQEIVEEESATEEIIRDETNVEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ESVTEELPEEDIINEKVQEEESSAYQEIVQDGSYTKDVEYKELVNDDVRDKENFYIEE
DPFKGQLINEGLPVEEEFVTKELPVKEESVFEELTEEDQSVTKEIPVEEHSVFKEVDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EATVTEEVVEDGSVTEEVVEDGSVIQEVVEDGSVTEEIVQENGSVTEEIVEEEGSVNE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EVEEEVSVSGEVDETEYVTEEVEEEGSVVEEIVEEEGSVVEEIVEEEGSSVVEEIVEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TEGEETESLTDEIVEEGVVTDDIPEEQIITEKVQEEEEFVTGELSEEDIINEKVQEED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /product="erythrocyte membrane-associated glant protein antiqen 332"
                                                                                                                                                                                                                                                                                                                        /product="erythrocyte membrane-associated giant protein
antigen 332"
                                                                                           falciparum"
                                                                                                                                                                                                                                                            /country="China:Hainan province"
                                                                                  /organism="Plasmodium
                                                                                                                                                                /db_xref="taxon:5833"
/chromosome="11"
Location/Qualifiers
                                                                                                                                /isolate-"FCC1/HN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /codon_start=1
                                                                                                                                                                                                                                                                                                          .>16377
                                             source
                                                                                                                                                                                                                                                                                                          mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                           CDS
FEATURES
```

EEIFVEEVSASQEIVONESGTEEILEKVSASQEIVODGSVTEOIIEEOKPVTEEVNE
BESTHHEI IOEESHVEKVYOGGSVABEEIVEKEGSVTEDIOGGSTVAE
BIVEEEEFDINEEILEEESYALEFPVEGFENEIFVEGISDEILKEKEGSYTEDIOGGSTVAE
BIVEEEEFDINEEILEEEGSTTEEILEEEGSTPREVOGGSVEEILEEGESTVAEILEEGESTVAEILEEGSSTPEILEEGSSTPEILEEGESTPEVEKEGSVEEILEEGESTPEVEKEESTEELEEGSTPREVEEN
BEGLANSEILEEGSTATDYVOGGSVBEEILEEGSATVEEILEEGESTVAEILEEGESTVEEILEEGESTPEVEKEE
BUGSATEFFEETREOLDSEIKERONGSINGEIVEE
EINDEVLEEBKAYDEOLDSIIKERVOPERESYTOEIVEEORGSYTEEIVGOGGSTOORGSINGESVAEIVEETRAGOGGSTOORGSINGEIVEE
ESTATOBYLEERAYSADENFYOORONGOGGSCHOEERENITTEEPRYSEEINTEKKUNDEN TONOOYODDSYUDEOLDSIIKERYOPARVOYTEETRAGOGSTOORGSTO

BASE COUNT 7347 a 1411 c 3730 g 3889 ORIGIN

3; 5467 GAAGAAGAATCAGTTCCTGAAGAATATTGGAAGAAGAACTATCAGGTTCTGAAGAA 5526 5527 GTTCTAGAAGACGAATGGGTTACTGATGCTTTTATGGGACAAGAAGGATCTGTTATAGAA 5586 5587 GAAATTGAAGAATAGTAGATGGAGAAGGATCGATTACGGAAGAAATTGTAGAAGATGGA 5646 5647 TCAGCTAATGAAAAATAĞTAĞTAĞAAGAAGAACCATCTCĞTĞTTGAAĞAAĞTTTTAĞĞAAAA 5706 306 gaagaggaaaattttgatgagaattcaggtgatgatgaagctcttttagatgctaccccc 365 ggcgatttggaagcaggggaagaaactggcgatttggaagcagggggaagaagctggtgat 662 246 gaaaatgettetgatgatgttgtagaggtggaggateetteaaaegaeggtttagaatta 305 Gaps gaagctggcgatatggaagcaggggaagaagctggtgatttggaagcaggggaagaaact gaagatgactttgccttaacagatttgccaattgaagacgatgaggaagtcaacgaaacg 426 ttagatggaggtgaatcattaggaggtttccactgaagatatggaaacagaagatggc tcaacagatgatacggaaacagaaggac---tacctggtgatatggaaggaagaa Length 16377; 18; Indels 8.5%; Score 283.6; DB 3; 46.0%; Pred. No. 8.3e-32; 0; Mismatches 1264; Query Match 8.5 Best Local Similarity 46.0 Matches 1090; Conservative 366 486 ò Op ò g ò рp ò g ò g

5707 GAAGGATTTGTTATTGAAGAAATAATAGAAGAAGGGTCGGTAATTGAACAAGTTGAAGAT 5766

qq

EEVEKKESVTEDILVEESVTGDILVEGSVTEEVVGEEKLVSEEIVTEEGSVAQEIVEE DAPATEEIDEIESVTEEVVEEEGPVDEEIVQEEGSVTEEIIGGESKVEEVVEEGGSEN

DEVPNSKEVQEIESIIEEIVEDGLTTDDLVGQQGSVIEEVVEEVGSDSEGIVEEASIT

ESTREDVLEESLYTENVYGQQESYTETIVDGEGSFTEDIVEEEESYTETIVDDEESYT KEIVEDEELVTEEIVEDEGSFTEEIVEDEGSFTEEVIEERSLIEEVEDTETVAEKEEG SVIKEIIDEKSLTEKIVEEEKSYTEEVEKESVKEEVEEQRLVVEEGGSATEGIVEDR

VLEKEGSATEEIVQDGSGTNDFVGKQGSVIEEVVEEEISTTEEKLKEEASAIEEFVEE

IVEGVSVIEEDDNIEPVSEEIVBGSVTEËMIKEGLENEVILDEDSITEEALEKEGSVS EEIVVEENGSLTEEIVDEERGTSEDMIERGSASEEIIQEESQVEEVVEEVSVIDEIVEE DELDTKEVVEEIEFWTEEVVEHKEEBESGSVAEEIIVQEEKGSVNEEIIEEVGSITEEMV EGOVSDNEEIVEERSVIERAENWAIEKEVEERGLDMEEVIDEEDSSSEVSEQAEEEVVIN EEILKESSDVEDVKVUENELMNEEVNEETQSVAENNEEDKELDNYVVEETESVTEEVVI

LATEGIVDDILVTEEIVEDGLATDEFVEQQGSIIEEVLDDEGSVTEEIVEEEGSPNEE

us-09-667-130-1\_1.rge

```
ACAAAAACAGTTTCTGAAAAATCAGAAGAATCATCAGCTATTGAAGAAGTTAAAGAAGTA 5826
                                                                                                                                                                                                                                                           6057
                                                                                                                                                                                                                                                                                       1022
                                                                                                                                                                                                                                                                                                                                                                        6118 GAAATAGTGGACGAAGTGTCTCGTACTGAAGAAATAGTAGAAGAAAATGGATCAGTTACG 6177
                                                                                                                                                                                                                                                                                                                                                                                                                      1143 gaagtgggaccaacggaagaagaaccaaccgaagaattagatgccactccagaggatgga 1202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1203 tttcgcattagacgaaactgcagaaggagaaacagaagaagaaacgtagaggagaagaaaca 1262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             6477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gcagaaggagaagaaaccgtagagggagagaaaccgtagagggagaagaagaaccgtagag 1442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6598 GAGGAAGGATCACTIGITGAAGAAATTGTAGAGGAGGAAGGATCAGTTGTTGAAGAATA 6657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         aacgatttaacgtatgcagacattacatcctttgagccattatttaaacaaatcctcaag 1742
                                                                                  AAAGAAGAAGAATCGATTAGTGAAAAATAGTAGAAAAAGAAGAATCTGTTACTGAAGAA 5886
                                                                                                                                          1887 ATTGTACGACAAGAATCTACTACTGAAAAATAGTAAAAAGATGTATCACCTACTGAA 5946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ggagaagaagctgcagaaggagaagaagttagaggcaactccagaggatgacttccaa 1502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gaagcgttagtagcagtgccagtagtggccgaaccggtagaagtagtgactcctgctcag 1622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cctgtcaaaccaatggtcgctccaacggcagatgaaactttattcgttgatatcttagat 1682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6298 CAAGAAGTTGTAGAATGGATCAGTTACTGAAGAAATAGTACAAGAAAATGGATCAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        caacctgccgatagtaatgatgccctctttggaagtattttggataaagatataattttt
                                                                                                                                                                                                                                                                                       gttacgggacaagaattgccaatgaaacctgtaccattaccagtggcagaagagcccgcg
                                                                                                                                                                                                                                                                                                                                             caagtaccagcggaagaattagatgccactccagaggatgacttcgcattagatgttaca
                                                                                                                                                                                                                                                                                                                                                                                                        gaatctcccgaggaagtagaattagtattagatgaagaggcaactgaagaagaatcaacg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6358 ACTGAAGAAATAGTAGAGGAAGAAGGATCAGTTAATGAAGAAGTTGAAGAAGTATCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTTTCTGGAGAAGTTGATGAAACAGAATATGTTACTGAAGAAGTAGAAGAAGAAGGATCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6478 GTTGTTGAAGAAATTGTAGAGGAGGAAGGATCAGTTGTTGAAGAAATTGTAGAGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   acagaagatagttcagctgatggagcagaaaagtacatgttcctgctcaagaaaatgta
                                                                                                                                                                                                                                                                                                                  GAACAAGAAGATGTATCAGTAAATGCACAAGTTACATGTGAGAAAAAATCAGTTACTAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ttggaagcaggggaagaaactggcgatttggaagcaggggaagaaactggagatgcggaa
                                                                                                                                                                                                  5947 GATTTTGTAGAACAAACAGATTCAGTTACTGAAAAAGTTATAGAACAAGAAGGATCAAAC
                                                                                                                                                                                                                                gatcatattaaagatttcgagccactattcgaacaaattgtggcgggtactgctaaacat
                                                                                                                                                                                                                                                  6238 GAAGAAGTCGTAGAAGATGGATCAGTAACTGAAGAAGTCGTAGAAGATGGATCAGTTATT
                           2767
                                                                                                                                                                      843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6538
                                                                                  5827
                                                                                                               783
                                                                                                                                                                                                                                                                                                                  8509
                                                                                                                                                                                                                                                                                                                                             1023
                                                                                                                                                                                                                                                                                                                                                                                                     1083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1683
                                                       723
                                                                                                                                                                                                                              903
                                                                                                                                                                                                                                                                                      963
                        g
                                                                            Op
                                                                                                             OY
Db
                                                                                                                                                             οy
                                                                                                                                                                                          Ω
                                                                                                                                                                                                                             οχ
                                                                                                                                                                                                                                                  d
                                                                                                                                                                                                                                                                              Oy
Db
                                                                                                                                                                                                                                                                                                                                            οy
                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                               Ογ
Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                     οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    οχ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            οŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
õ
                                                      ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
```

DNA linear HTG 21-APR-2001 \*\*\* SEQUENCING IN PROGRESS \*\*\*, Chordata; Craniata; Vertebrata; Euteleostomi; Rodentia; Sciurognathi; Muridae; Murinae; 1743 gatcctgatgcaggagaggctgtaacagtaccatcaaaggaagcacctgtacaagtacca 1802 GAAGGATCAGTIGTIGAAGAAATIGTAGAGGAGGAAGGATCAGTIGTIGAAGAATIGIA 6957 7618 CTAGAAAAGGATCTGCTACTGAAGAAATAGTACAAGATGGATCAGGTACTAATGAT 7677 gtggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaactccaagaggac gtagaagtaccagcggtagtagaagaagaggtgccagaagaagtagaagaagaagaa 7018 GTTGATGAACTGAATTAGTTAATGATGAAATAGTAGAACAAGCTCCATTTACTGAAGAA atgcactaccaagacgttccaaaggaatttatggaagaagaagaagaaactgcagtgtat gatttogaattagaaggaactgcagaagctccagaggaaggaagtaattagtattagaagga ggagaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggagaagtggaa gaggtacctgcagaagtagaagtggaagtggaaggatacctgcagaagtagaagtggaa 7258 TTAATTACAGAAGAAATTTTAGAAGAATCTGAATCCGTTAATGGGGAAATAATAAAAAA TCAGTTGTTGAAGAAATTGTAGAGGAGGAAGGATCAGTTGTTGAAGAAATTGTAGAGGAG gtgccagaagaagaattagaggcaactccagaggacgatttcgaattagaagaaccaaca gaggtaccagaagtagaagtagccgcagaagtagaagaagtggaagaggtacca 7558 GTAGAAGAATCAGCTACTGAAGAATAATACGGGATGAAACTAATGTTGAAGAAGTC AC091338 102195 bp D Rattus norvegicus clone CH230-1C12, 55 unordered pieces. AC091338 2 GI:13702744 HTG; HTGS\_PHASE1. ccattgaaaccagaagattttgcaaaggaaga 2608 7678 ITTGTAGGAAACAAGGATCTGTTATTGAAGA 7709 Norway rať. Rattus norvegicus Eukaryota; Metazoa; C Mammalia; Eutheria; R DEFINITION ACCESSION VERSION KEYWORDS SOURCE ORGANISM 7138 7498 2577 RESULT 13 1803 8689 1863 6958 1977 2037 2097 7198 2157 2337 2397 2517 AC091338 g Ωp g g QQ g qq g Db g qq Db οy 염 g ò QQ òγ οy οy δλ δ ò οy δ δ à οχ ò

REFERENCE AUTHORS

```
3200
                                                                                                                                                                                                                                     5886
5986
                                                                                                                                                                                                                                                                                                                                                                                                                                                    16617
19592
19692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      48480
48880
511448
52932
52932
52932
54301
56415
56415
56415
56415
60559
60659
60659
60659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                64122
65668
65768
67605
67705
69241
                                                                                                                                                                                                                                                                                                               8763
11486
11586
13834
13934
       L (Dassa 1 to 1102195)

Muzny, D.M., Admarctunge, H.C., Are, J.R., Banks, T., Barbaria, J., Blangae, K., Blankenburg, K., Bonain, D., Bouck, J., Blange, K., Blankenburg, K., Bonain, D., Bouck, J., Burkett, C., Burch, M., Bryant, N.P., Burbaria, J., Bowie, S. Brieva, M., Brown, M., Bryant, N.P., Burbay, C., Bourch, P., Burkett, C., Burch, D., Carron, T.F., Carter, M., Cavazos, S.R., Chacko, J., Chavez, D., Chen, G., Cchen, R., Covie, M.D., Dathorne, S.R., David, R., Davila, M.L., Davis, C., Cox, C., Coyle, M.D., Dathorne, S.R., David, R., Davila, M.L., Davis, C., Davy, Carroll, L., Dederich, D.A., Delaney, K.R., Davis, M.L., Davis, C., Dugan-Roch, S., Durbin, H.H., Douthwaite, K.J., Draper, H., Dugan-Roch, S., Durbin, H.H., Douthwaite, K.J., Draper, H., Dugan-Roch, S., Prantz, P., Gabis, A., Gao, J., Garcia, A., Garner, T., Garza, N., Gill, R., Gorrell, J. H., Guevara, W., Gunardne, P., Hawes, A., Hemrandez, J., Henrandez, O., Hoddson, A., Houses, M., Havis, D., Hamilton, K., Harris, C., Harris, K., Hart, M., Havisk, P., Hawes, A., Hollins, B., Homsi, P., Noward, S., Huber, J., Hulyk, S., Hume, J., Jackson, L.E., Jacobson, B., Jia, Y., Johnson, R., Jolyet, S., Johnson, R., Lill, J., Lill, J., Lucher, J., Hulyk, S., Hume, J., Maheshwari, M., Mapua, P., Martin, R., Martindale, A., Maheshwari, M., Morris, S., Moser, M., Nelson, B., Newer, Wolly, Perez, L., Peters, J., Pickerson, J., Newtson, N., Nguyen, A., Nguyen, A., Nguyen, A., Nguyen, A., Nguyen, N., Nguyen, N., Nguyen, N., Nguyen, R., Ngayer, P., Tamerisa, A., Tamerisa, A., Tangy, H., Sutcon, H., Sutcon, M., Reil, M., Peters, L., Peters, M., Peters, M., Peters, J., Pickerson, S., Waster, M., Yanger, Walliams, S., Usmani, K., Washungton, C., Taylor, T., Tangy, K., Walliams, S., Usmani, K., Wasuez, L., Paders, M., Yanger, M., Yanger, M., Yanger, M., Walliams, S., Usmani, K., Wasuez, C., Taylor, Y., Vallialon, S., Wartek, A., Yanger, M., Walliams, S., Usmani, K., Wul, Y., W
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Center project name: TUGG

Center clone name: CH230-1C12

Center clone name: CH230-1C12

Sequencing vector: Plasmid: M77789
Sequencing vector: M13: L08821

Chemistry: Dye-primer Bodipy: 65% of reads
Chemistry: Dye-terminator Big Dye: 35% of reads
Assembly program: Phrap; version 0.990329

Consensus quality: 19820 bases at least Q40

Consensus quality: 115383 bases at least Q20

Estimated fisert size: 90042; sum-of-contigs estimation
Quality coverage: 0x in Q20 bases; sqarose-fp estimation
Quality coverage: 1.1x in Q20 bases; sum-of-contigs estimation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (18-ARR-2001) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA On Apr 21, 2001 Lis sequence version replaced gi:13661904.

Center: Baylor College of Medicine Center code: BCM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Web site: http://www.hgsc.bcm.tmc.edu/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Contact: hgsc-help@bcm.tmc.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Direct Submission
Unpublished
2 (bases 1 to 102195)
(bases 1 to 102195)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Worley, K.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
JOURNAL
```

JOURNAL AUTHORS REFERENCE TITLE

COMMENT

arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved. NOTE: This is a 'working draft' sequence. It currently consists of 55 contigs. The true order of the pieces is not known and their order in this sequence record is

unknown length of 2586 bp in length bp in length bp in length bp in length in length bp in length bp in length bp in length in length of 2583 bp in length bp in length bp in length unknown length of 2248 bp in lei unknown length unknown length of 2723 bp in l length length length length length length length length of 2975 unknown of 2320 lunknown of 2432 lunknown unknown of 2905 of 2661 unknown contig of 3199 gap of unknown unknown unknown 1734 unknown gap of contig gap of contig gap of contig gap of contig gap of gap of gap of contig gap of contig gap of gap of contig contig gap of contig gap of contig contig contig gap of gap of 16516: 16616: 3933: 22011: 22111: 24543: 24643 19691

of 1976 bp in length bp in length of 1384 bp in length of 1269 bp in length bp in length bp in length bp in length in length bp in length of 2338 unknown of 2513 unknown of 1555 of 2768 unknown unknown of 2238 unknown of 1896 unknown unknown of 1823 unknown unknown unknown unknown contig gap of contig contig gap of contig gap of gap oř contig gap of contig gap of contig contig gap of contig contig gap of contig gap of gap of 39015: 34581: 36919: 37019: 38915: 12914: 13014

contig of 1274 bp in length length length unknown lên of 1432 bp unknown 2114 ō contiq gap of gap of 57888

of 1138 bp in length bp in length unknown length length length unknown J of 1897 k unknown contig contig contig gap of gap of gap of 64021

contig of 1366 bp in length of 1546 bp in length 1536 bp in length unknown length length length unknown length contig contig contig gap of gap of 67604: 67704: 65667

of 1307 oţ contig 69340: 70647:

bp in length

```
2129 ggtacctgcagaagtagaagtagaagtggaagaggtaccagaagaagtagaagaggtacccgc 2188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Contact: gnktm@capecod.bwh.harvard.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----Summary Statistics
ect name: ADU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HTG; HTGS_PHASE1; HTGS_DRAFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AC090533.4 GI:17976439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Center project name:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Center Code: HPGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             house mouse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Web site:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AC090533
                                                                                                                                                                                                                                                                                                                                                                                                  30209 AG 30210
                                                                                                                                                                                                                                                                                                                                                                       2489 ag 2490
                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 14
AC090533/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                               2189
                                                                                                                            2249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
JOURNAL
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMMENT
                                 g
                                                               à
                                                                                           q
                                                                                                                            ò
                                                                                                                                                       g
                                                                                                                                                                                       ð
                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                  δý
                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                          ŏ
                                                                                                                                                                                                                                                                                                                                                                                                       Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          29549 ACAAGAAGAAGAACAAGAAGAACATGAACAAGAAGATCAAGAAGAAGAAGAACAAGAAGA 29608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1769 agtaccatcaaaggaagcacctgtacaagtaccagtggcagtagggcccgcgcaagaagt 1828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gccaacggaagaattgatgcaactccaagaggacgatttcgaattagaaggaactgcaga 1888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1949 aagagaaggagagccaacagaaggagaagtgccagaagaagaattagaggcaactccaga 2008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ggacgatttcgaattagaagaaccaacaggagaagaagtagaagaagaaaccgtagagggcga 2068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      agaaactgcagaaggagaaggaagtggaaggtacctgcagaagtagaagaagtggaaga 2128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 283.6; DB 2; Length 102195;
Pred. No. 7.7e-32;
0; Mismatches 274; Indels 0;
                                                                                                           bp in length
                                                                                                                                                                                                    bp in length
                                                                                                                                                                                                                                                                                              bp in length
                                                                                                                                                                                                                                                                                                                                                                                       bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       bp in length
                                                                                                                                         bp in length
                                                                                                                                                                       bp in length
                                                                                                                                                                                                                                    in length
                                                                                                                                                                                                                                                                 bp in length
                                                                                                                                                                                                                                                                                                                            in length
                                                                                                                                                                                                                                                                                                                                                         of 1349 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                     bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                  in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             in length
                                 length
                                                                                                                                                                                                                                                                                                              length
                                                                                                                                                                                                                                                                                                                                                                          length
                                                               length
                                                                                              length
                                                                                                                            length
                                                                                                                                                         length
                                                                                                                                                                                                                      length
                                                                                                                                                                                                                                                 length
                                                                                                                                                                                                                                                                               length
                                                                                                                                                                                                                                                                                                                                            length
                                                                                                                                                                                                                                                                                                                                                                                                         length
                                                                                                                                                                                                                                                                                                                                                                                                                                    length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     length
                                                                                                                                                                                       length
                                                                                                                                                                                                                                                                                                                          of 1132 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                    dq
                                                                                                                                                                    of 1718 h
unknown
of 1875 h
                                                                                                                                                                                                                                                                                                                                                                                                                                 unknown
of 1107 N
                                                                                                                                                                                                                                  of 1400
unknown
                                                                                                                                                                                                                                                                                                                                                                                       of 1256
unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 unknown
of 1323
                                                                                                                                                                                                                                                                                                                                                                                                                     contig of 1238
gap of unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            of 1353
                                                               unknown
                                                                            of 1421
                                                                                              unknown
                                                                                                           of 1421
                                                                                                                           unknown
                                                                                                                                         of 1234
                                                                                                                                                         unknown
                                                                                                                                                                                                                    unknown
                                                                                                                                                                                                                                                                               unknown
                                                                                                                                                                                                                                                                                            of 1506
                                                                                                                                                                                                                                                                                                              unknown
                                                                                                                                                                                                                                                                                                                                            unknown
                                                                                                                                                                                                                                                                                                                                                                          unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  of 1317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            of 1468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of 1062
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    contig of 1183
                                                                                                                                                                                                                                                                                            contig
gap of
contig
gap of
                              gap of
contig
gap of
contig
                                                                                                           contig
gap of
                                                                                                                                         contig
gap of
                                                                                                                                                                      contig
gap of
                                                                                                                                                                                                    contig
gap of
                                                                                                                                                                                                                                  contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                       contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                    contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        contig
gap of
                                                                                                                                                                                                                                                                 contig
                                                                                                                                                                                                                                                                                                                                                                          gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     contig
                                                                                                                                                                                                                                                                               gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8.5%;
                                                                            74847:
74947:
                                                                                                                                                                                                                                                                                                                                                                                       89886:
89986:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100912:
101012:
102195:
                                                                                                                                                                                                                                  82995:
                                                                                                                                                                                                                                                  83095:
                                                                                                                                                                                                                                                                  84243:
                                                                                                                                                                                                                                                                               84343:
                                                                                                                                                                                                                                                                                              85849:
                                                                                                                                                                                                                                                                                                              85949:
                                                                                                                                                                                                                                                                                                                                                                          88630:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  93848:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 93948:
                                                                                                                           76468:
                                                                                                                                                       77802:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity 62.0
18; Conservative
70648
70748
70748
71928
74848
74848
76469
76469
76469
76469
76469
76469
76469
76469
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
87182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            448;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           29669
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
```

```
E 1 (bases 1 to 272545)
S Li,L., Mondgomery,K.T., Grills,G., Chiu,D., Decker,J., Fusina,M., Goltz,J., Haider,A. Hall,L., Han,J., Ioshikhes,I.P., Lee,E., Perera,A., Shim,C., Thomas,E. and Kucherlapati,R.
L Unpublished
E 2 (bases 1 to 272545)
Li,L., Montgomery,K.T., Grills,G., Chiu,D., Decker,J., Fusina,M., Goltz,J., Haider,A., Hall,L., Han,J., Ioshikhes,I.P., Lee,E., Perera,A., Shim,C., Thomas,E. and Kucherlapati,R.
L Submitted (O2-MAR-2001) Department of Molecular Genetics, Albert Einstein College of Medicine Genome Center, 1300 Morris Park Ave., Bronx, NY 10461, USA
On Dec 21, 2001 this sequence version replaced gi:1310871.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACUGU533 272545 bp DNA linear HTG 25-JAN-2002 Mus musculus clone RP23-33H13 strain C57BL6/J, WORKING DRAFT SEQUENCE, 45 unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              http://wchanning.bwh.harvard.edu:9088/hpcgg/jsp/hpcgg/Sequence/mouse.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
1 (bases 1 to 272545)
                                                                                                29849 AGAAGAAGAAGAAGAAGAAGAACAAGAACAAGAACAAGAACAAGAACAAGAACAAGAACAAGA 29908
                                                                                                                                                                                                                                                      29969 AGAGGAACAGGAACAAAATGAAGATGAAGACGAAGACTAAGAAGAAGAAGAAGGAGGAGGAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2309 agaagtagaggtaccagcggtagtagtagaagtagcagcggtagtagaagaagaggt
                                                                                                                                                                                              agaggtaccagaagaagtggaagaggtaccagaagaagtggaagaagtggaagaagtaga
                                                                  agaagtagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaagtgga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequencing vector: puc18; L08752
Chemistry: Dyo-terminator Big Dye; 1008
*Consensus quality: 257441 at least Q20
*Consensus quality: 257718 at least Q30
*Consensus quality: 247095 at least Q40
Estimated insert size: agarose-FP - N/A
**Estimated insert size: 271665 - sum-of-contigs
Quality coverage: agarose-FP - N/A
```

```
266749: contig of 459 bp in length
266769: app of unknown length
267788: contig of 949 bp in length
267738: gap of unknown length
268756: contig of 88 bp in length
268596: gap of unknown length
270010: contig of 1414 bp in length
                                                                                                                                                              unknown length
of 968 bp in length
unknown length
of 1045 bp in length
unknown length
                                                                                                                                                                                                                                                                                                                                                             unknown length
of 1624 bp in length
unknown length
                                                                                                                                                                                                                                                                                                                                                                                               271674: gap of unknown length
272545: contig of 871 bp in length.
                                unknown length
of 812 bp in length
unknown length
                                                                               length
                                                                                                               length
                  350 bp in length
                                                                                                                                                length
                                                                                                                                         846 bp in len
                                                                                              unknown length
of 799 bp in len
unknown length
                                                                               851 bp in le
cnown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          vector_side:left"
58421. .080864
//note="assembly_name:Contig106"
80805. .109089
//note="assembly_name:Contig105"
109910. .125133
//note="assembly_name:Contig105"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           vector_side:right"
125154. .139549
1051570. .153410
/note="assembly_name:Contig103"
139570. .153410
/note="assembly_name:Contig102"
153431. .162567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           162588. .171044
/note="assembly_name:Contig100"
/note="assembly_name:Contig99"
/note="assembly_name:Contig99"
/note="assembly_name:Contig98"
| 179325. .187059
/note="assembly_name:Contig98"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /sex="male"
1. .30267
/note="assembly_name:Contig108"
30288 . .58400
/note="assembly_name:Contig107
clone_end:SP6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            205987, .212449
/note="assembly_name:Contig95"
212470. .217752
/note="assembly_name:Contig94"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note-"assembly_name:Contig93"
223964. .230362.
/note-"assembly_name:Contig92"
230383. .236251
/note-"assembly_name:Contig91"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              note="assembly_name:Contig97"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                _name:Cont1996"
                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /strain="C57BL6/J"
/db_xref="taxon:10090"
/clone="RP23-33H13"
                                                                                                                                                   ot
                                                                                                                                                                                                                                                                                                                                                                                contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                  .ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                gap of
                                                contig
gap of
                                                                                contig
                                                                                                                   contig
                                                                                                                                                                                                                contig
                  contig
                                                                                                                                                  contig
                                                                                                                                                                                 contig
                                  of
                                                                                                                                 of
                                                                                                                                                                                                  οĘ
                                                                                                                                                                                                                                   ō
                                                                                                  gap of
                                                                                                                                                                 õ
                                                                                                                                                                                                                                   gap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               197619. .205966
note="assembly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   217773. .223943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               clone_end:T7
                                                                                                                                                                                                                                                                                                             268576:
268596:
               260829:
260849:
                                                                                                              263351:
                                                                                                                                                364217:
                                                                                                                                                                                                                                                                                                                                                                                              271655
271675
                                                                                                                                                                                                                                                                                                                                                                ,0011
                                                                                                                                                                 264218
                                                                                                                                                                                                                                                                                                                                68577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
6.8 x in Q20 bases; sum-of-contigs estimation
                                                            is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                           NOTE: This is a 'working draft' sequence. It currently consists of 45 contigs. The true order of the pieces is not known and their order in this sequence record is
                                                                                                                                                         contig of 30267 bp in length gap of unknown length in length gap of unknown length contig of 28113 bp in length gap of unknown length contig of 3044 bp in length contig of 12105 bp in length gap of unknown length gap of unknown length contig of 15224 bp in length gap of unknown length contig of 13841 bp in length gap of unknown length contig of 913841 bp in length gap of unknown length contig of 9137 bp in length gap of unknown length gap of unknown length contig of 8457 bp in length gap of unknown length gap of unknown length contig of 8457 bp in length gap of unknown length gap of unknown length contig of 8140 bp in length gap of unknown length contig of 10519 bp in length gap of unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              unknown length
of 1909 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6463 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1886 bp in length
known length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2254 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1225 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               unknown length
of 1362 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 unknown length
of 1372 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2281 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    unknown length
of 2056 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   unknown length
of 1030 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                303 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 of 871 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               881 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           contig
gap of
contig
contig
gap of
contig
gap of
contig
gap of
contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            contig
gap of
contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                contig
gap of
contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gap of
                                                                                                                                                            30267:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   259429:
260459:
                                                                                                                                                                                                                                                                              60660
Quality coverage:
                                                                                                                                                                             30268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  259430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 344696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              246970
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               246990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 48214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                248194
```

```
Db 178735 GCAGTAGCAGCATCAGCAGGAGCAGGAGCAGGAGCAGGGTCAGGAGGAGGAGCAGAGCA 178676
                                                                                                                                                                                                                                                                                                                                                                       D 178615 GCAGGAGCAGCAGCAGCAGCAGGAGCAGGAGCAGGAGCAGGAACAGGGGCAGGA 178556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                tttaaacaaatcctcaaggatcctgatgcaggagaggctgtaacagtaccatcaaaggaa 1784
                                                                                                                                                                                                                                           1245 gtagaggagaagaaacagaagaagctgcagaaggagaagtatcagaagaagctccagaa 1304
                                                                                                                                                                                                                                                                                                1305 ggagaagaagttagaggcaactccagaggatgatttcgcattagatggaactacatta 1364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gcacctgtacaagtaccagtggcagtagggcccgcgcaagaagtgccaacggaagaattg 1844
                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                               Db 178495 GCAGAGCAGGAGCAGC-AGGAGCAGGAGCAGGAGGAGGAGGAGGAGGAGCAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1365 gaagaaaccgaagaaactgcagaaggagaaaaccgtagagggagaagaaaccgtagag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gaagaaccaacaggagaagaagtagaagaaaccgtagagggcgaagaaactgcagaagga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1665 ttcgttgatatcttagataacgatttaacgtatgcagacattacatcctttgagccatta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             acagaaggagaagtgccagaagaagtaattagaggcaactccagaggacgatttcgaatta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1605 gtagtgactcctgctcagcctgtcaaaccaatggtcgctccaacggcagatgaaacttta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 272545;
                                                                                                                                                                                                                  1;
                                                                                                                                                                                 Score 278.8; DB 2; Length
Pred. No. 3.6e-31;
0; Mismatches 557; Indels
        /note="assembly_name:Contig90"
240593. .242789
240591. .244695
242810. .244695
/note="assembly_name:Contig89"
244716. .24696
/note="assembly_name:Contig87"
246990 .247870
246990 .247870
246991. .248193
/note="assembly_name:Contig86"
27891. .248193
                                                                                                                                                                                   8.4%;
                                                                                                                                                                                Query Match
Best Local Similarity 52.8
Matches 624; Conservative
                            misc_feature
misc_feature
                                                     misc_feature
                                                                                    misc_feature
                                                                                                               misc_feature
                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1545
                                                                                                                                                                                                                                                                                                                                                                                                               1425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2025
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1485
                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                           õ
                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
```

```
AC018634 174241 bp DNA linear PRI 28-JUL-2000 AC018634
                                177776 GGAGGAGCAGGAGCAGCAGCAGGAGCAGGAAGCAGGAGCAGGAGCAGGAGCA 177717
                                                                                                                                                                                                                                                                                                                                              Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Submitted (28-JUL-2000) Genome Center, University of Washington, Box 352145, Seattle, WA 98195, USA
On Jul 28, 2000 Lhis sequence version replaced gi:8050915.
Center: University of Washington Genome Center
Center: UNGC
Web site: http://www.genome.washington.edu/UWGC/
Contact: ungchtgs@u.washington.edu
Center project Information
Center project name: Rachr?
Center clone name: Rachr?
Center clone name: Rachr?
Center clone name: Rachr?
                                                                                                                                                                                                                                                                                                                                                                                                                                                 gaagaagtggaagaggtacctgcagaagtagaagaagtggaagaggtacctgcagaagta 2144
                                                                                                                                                                                                                                                                                                                                                                                                                   gcggtagtagaagtagaagtaccagcggtagtagaagaagaggtgccagaagaagtagaa 2384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequencing vector: M13; X02013; 100% of reads Chemistry: Dye-primer-amersham; 66% of reads Chemistry: Dye-primer-amersham; 66% of reads Chemistry: Dye-terminator: Er-amersham; 34% of reads Assembly program: Phrap; version 0.990319
Consensus quality: 173493 bases at least 040
Consensus quality: 174199 bases at least 020
Consensus quality: 174313 bases at least 020
Insert size: 179271; 8.6% error; agarose-fp
Insert size: 174441; sun-of-contiss
Quality coverage: 6.33x in 020 bases; agarose-fp
Quality coverage: 6.50x in 020 bases; sum-of-contigs
                                                                                                                                                                                                                gaagaggtaccagaagaagtggaagagtaccagaagaagtggaagaggtaccagaagaa
                                                                                                                                                                                                                                                                                                                   gtggaagaggtaccagaagaagtggaagaagtggaagaagtagaagtagaggtacca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           οĮ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Eutele
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo
1 (bases 1 to 174241)
Kaul, R.K., Zhou, Y., James, R.A., Raymond, C., Haugen, E.D. ar
Olson, M.V.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Larger-scale Mapping and Sequencing of Human Chromosome 7 (bases 1 to 174241)

2 (bases 1 to 174241)

Bubb, K.L., Desmarais, C.L., Ramsey, S.A. and Hubley, R.M. Direct Submission

Submitted (15-DEC-1999) Human Genome Center, University Mashington, Box 352145, Seattle, WA 98195, USA (bases 1 to 174241)

Raul, R.K., Zhou, Y., James, R.A., Raymond, C., Haugen, E.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Db 177596 GGAACAGGAGCAGAAGGGGCGGGGGCAGGAGTGGGAGTGGGA 177555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy 2385 gaagaagaagaagaagaagaagccagtagaggaagaagatgta 2426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AC018634.3 GI:9558607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Olson, M.V
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
2085
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AC018634/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                   2325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
JOURNAL
REFERENCE
                                                                                                                                                                                                             2205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                                                  g
                                                                                                                                                                                                                                                              g
                                                                                                        δ
                                                                                                                                                                                                                                                                                                                δλ
                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                 ò
```

6066     5966     18105     18158       867     823     4047     4019       7550     7595     479     <800       1542     1531     7518     7450       5259     5070     115     <800       2061     2053     10695     10628       3357     3364     1142     1121	7394 7324 4194 4160 813 823 3104 3123 5190 5070 1019 1012 308 <800 9558 9461 4317 4326 976 973 2748 2714 1129 1121	6665 10185 1 6877 1487 2393 433 2140 3371 2002 10484 1 2514 10143 1	2512 2514 8539 8577 4092 4326 663 <800	320 122 3 1614 174 6534 4551	4326 952	3387 3614	2555 2514 1416 1402 610 <800	225 <800 	29 <800
quence quality bly program. educed to quality zero. to have less than enerally visible from the	unless otherwise noted: d or sequenced with an quality data (i.e., Phred resolve all sequencing east; all regions were ne or more than one M13 ed by restriction digest. % in 7 qaps	ultiple Complete Digest erimentally derived digest gments is given below. consists of both insert and ent the entire circular BAC. If (approximately 400-800 bp) of hence do not appear t remaining discrepancies d values. Uniquely ordered es.	rnt SeqDerMap Fngrprnt	12972 12987	3 8	3199 3170  1887 1838 1024	2 4		3405 3413 2335 2385
ity han	is follows unless other stranged or sequenced by high quality as an ande to resolve on and subclone or more smid subclone or more vas confirmed by reside: 29% in 7 qan 0.787% in 7 qan	ted by Multiple Complete D the experimentally derive tred fragments is given be equence consists of both in y represent the entire ciri ble cutoff (approximately, reprint and hence do not app guificant remaining discrep predicted values. Uniquely shed lines.	erMap	2 1	<pre>&lt;800 4332 </pre> <pre></pre> <pre>&lt;800 6863</pre>	9 3 7 1 24	2851 4955 4 7450 2501 2	7 15482 167 	

```
g
ò
                                                 ŏ
                                                                                                 δ
                                                                                                                                                   ŏ
                                                                                                                                      7;
                                                                                                                                                                                   145564 ATGGAGGAGAGGAGAGGAGGAGGAGGAGGAGGGGGAAGGAAGAAG 145505
                                                                                                                                                                                                                                                                                        145919
                                                                                                                                                                                                                                                                                                                                        145799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gagaaggagagccaacagaaggagaagtgccagaagaagtaattagaggcaactccagagg 2010
                                                                                                                                                                                                               1291 aagaaactccagaaggagagagaagttagaggcaactccagaggatgatttcgcattag 1350
                                                                                                                                                                                                                                                                                                                 1411 aagaaaccgtagagggagagaaaccgtagaggagagagaagagctgcagaaggagaagaag 1470
                                                                                                                                                                                                                                                                                                                                                                                                                    1531 gggaaggagaaggagaaggggaaggagaaggagaaggaggaagcgttagtagcagtgccagtagtgg 1590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ctccagaggaaggagaattagtattagaaggagaaggagaaccaacggaagaagagccaa 1950
                                                                                                                                                              Gaps
                                                                                                                                                                                                                              1351 atggaactacattagaagaaaccgaagaaactgcagaaggagagaagaaaccgtagaggag
                                                                                                                                                                                                                                                                                        1471 agttagaggcaactccagaggatgacttccaattagaagaaccatcaggagaaggagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                           1591 ccgaaccggtagaagtagtgactcctgctcagcctgtcaaaccaatggtcgctccaacgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cagatgaaactttattcgttgatatcttagataacgatttaacgtatgcagacattacat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cctttgagccattattaaacaaatcctcaaggatcctgatgcaggagaggctgtaacag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              taccatcaaaggaagcacctgtacaagtaccagtggcagtagggcccgcgcaagaagtgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1831 caacggaagaattgatgcaactccaagaggacgatttcgaattagaaggaactgcagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2011 acgatttcgaattagaagaaccaacaggagaagaagtagaagaaaccgtagagggcgaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  aaactgcagaaggaagaagtggaagaggtacctgcagaagtagaagtggaagagg
                                                                                                           Length 174241;
                                                                                                           Score 278.4; DB 9; Length
Pred. No. 4.2e-31;
0; Mismatches 551; Indels
                                                                                                           tch 8.3%;
al Similarity 55.1%;
693; Conservative
         1154
                                  1024
                                                                                  <800
                                                          <800
         1183
                                                                                  575
                               987
                                                         20
                                                                                                           Query Match
                                                                                                                          Local
                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1891
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  145504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1951
                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                               à
                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                         염
                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
```

```
HTG 12-JAN-2002
                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Musinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Submitted (11-JAN-2002) Wellcome Trust Sanger Institute, Hinxton, Cambridgeshire, CB10 1SA, UK. E-mail enquiries:
humquery@sanger.ac.uk Clone requests: clonerequest@sanger.ac.uk
On Nov 28, 2001 this sequence version replaced gi:17017892.
2131 tacctgcagaagtagaagaagtggaagaggtaccagaagaagtagaa--gaggtacccgc 2188
                                                                                                                                                               agaggtaccagaagaagtggaagaggtaccagaagaagtggaagaagtggaagaagtaga 2308
                                                                                                                                                                                                                                              agaagtagaaggtaccagcggtagtagaagtagaagtaccag-cggtagtagaagaagagg 2367
                                                                                                                                                                                                                                                                                                                                                                                                                                 AL645746 282611 bp DNA linear HTG 12-JAN.
Mus musculus chromosome 13 clone RP23-153B6, *** SEQUENCING IN
PROGRESS ***, in unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                         Assembly program: XGAP4; version 4.5
Sequencing vector: plasmid: L08752; 100% of reads
Chemistry: Dye-terminator Big Dye; 100% of reads
Chemistry: Dye-terminator Big Dye; 100% of reads
Consensus quality: 279809 bases at least Q40
Consensus quality: 280516 bases at least Q20
Insert size: 281711; sum-of-contigs
Insert size: 190968; 4.7% error; agarose-fp
Quality coverage: 12.39x in Q20 bases; sum-of-contigs Quality
Coverage: 18.52x in Q20 bases; agarose-fp
                                                                                * NOTE: This is a 'working draft' sequence

* This record will be updated with the finished sequence

* as soon as it is available and the accession number will

* be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1. .282611
/organism="Mus musculus"
/db.xref="taxon:10090"
/chromosome="13"
/clone="RP23-153B6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AL645746.2 GI:17148444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HTG; HTGS_PHASE1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           house mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (sites)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sims,S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 16
AL645746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                             2249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                2189
                                                                                                                                                                                                                                              2309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMMENT
                                                                                                                                                                                                                                                                                Q
```

```
ROD 26-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostoml; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. 1 (bases 1 to 165077)
McPherson,J.D.
                                                                                                                                                                                                          219254 GGAGAAGAAGAAGAAGAAGGAGAAGGAGAAGGAGAAGGAGGAGGAGGAGGAGGAGGAAGGA 219313
                                                                            Direct Submission
Submitted (26-SEP-2001) Genetics, Genome Sequencing Center, 4444
Forest Park Parkway, St. Louis, Missouri 63108, USA
Center project name: M.BA0005K17.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                2154 gaagaggtaccagaagtagaagtagaagggtacccgcagaagtagaagtagaagtggaagaggta 2213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1740 aaggatcctgatgcaggagaggctgtaacagtaccatcaaaggaagcacctgtacaagta 1799
     1734 atcctcaaggatcctgatgcaggagaggctgtaacagtaccatcaaaggaagcacctgta 1793
                             219134 NNNNNNNNNNNNNNNNNNNNNNNNNNNGCAGNAANAAAGGAAGAGGAGAAGAAGAAGGA
                                                      caagtaccagtggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaactc
                                                                                                       219314 GAAGGAGGAGAAGGAGGAGAAGGAGAGAAGGAGAAGGAGGAGGAGGAGGAGGAGGA
                                                                                                                                                                                                                                                            2034 acaggaagaagtagaagaaaccgtagaggcgaagaaactgcagaaggagaagtg
                                                                                                                                                                                                                                                                                                                gaagaggtacctgcagaagtagaagaagtggaagaggtacctgcagaagtagaagtg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 165077;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACU84382 165077 bp DNA linea Mus musculus clone RP23-5K17, complete sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                219614 GAAGAAGAAGAAGAAGAAGAAGAAATGACTTTGCAGGAG 219652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 273.8; DB 10;
Pred. No. 1.9e-30;
0; Mismatches 262;
                                                                                                                                                                                                                                                                                                                                                                                                                  2214 ccagaagaagtggaagaggtaccagaagaagtggaagag 2252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /clone="RP23-5K17"
35377 c 34896 g 48381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The sequence of Mus musculus clone Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1. .165077
/organism="Mus musculus"
/db_xref="taxon:10090"
/clone="m"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AC084382.1 GI:15778814
HTG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 (bases 1 to 165077)
McPherson, J.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           7 Match 8.2%;
Local Similarity 63.1%;
nes 456; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      house mouse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            46423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local S
Matches 456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 17
AC084382/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                               2094
                                                      1794
                                                                                                        1854
                                                                                                                                                         1914
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMMENT
FEATURES
                                                                                                                             g
                                                                            임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ογ
                             셤
                                                                                                                                                                                g
                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                        ò
                                                                                                                                                         ò
                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                  ŏ
                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1314 gagttagaggcaactccagaggatgatttcgcattagatggaactacattagaagaaacc 1373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gaagaaactgcagaaggagaagaaaccgtagagggagaagaaaccgtagagggagaagaa 1433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Oy 1434 accytagaggagagagagagctgcagaaggagaagaagaagagcaagtcagaggat 1493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ggagaaggagaagcgttagtagcagtgccagtagtggccgaaccggtagaagtagtgact 1613
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1674 atcttagataacgatttaacgtatgcagacattacatcctttgagccattatttaaacaa 1733
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Оу 1254 даадааасадаадаадсідсадааддіда 1313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1194 gaggatggatttcgcattagacgaaactgcagaaggagaaacagaagaaacgtagaggga 1253
                                                                                                                                                                                                                                                                                                                                                                                                                                                       2; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cctgctcagcctgtcaaaccaatggtcgctccaacggcagatgaaactttattcgttgat
                                                                                                                                                                                                                                                                                                                                                                                                                            Length 282611;
                                                                                                                                                                                                                                                                                                                                                                             902 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
Score 277.4; DB 2;
Pred. No. 5.8e-31;
0; Mismatches 518;
                                                                                                                                                                                                                                                                                                                                                                                                                              8.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 50.94
Matches 539; Conservative
                                                                                                                                                                                                                                                                                                                                                                           80227
                                                                                                                                                                                                                                                                                                                                                    misc_feature
                 misc_feature
                                                      misc_feature
                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                        misc_feature
                                                                                                                                misc_feature
                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                                                                                                                                                          BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
```

;;

```
(C12N1/21,C12R1:19),(C12P21/02,C12R1:19);
strandedness: Double;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Mismatches
                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism-"unidentified"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /db_xref="taxon:32644"
                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                  caulleryi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                      .1686
                                                                                    Leucocytozoon cau
JP 1995089995-A/1
04-APR-1995
                                                                                                                                                                                                                                               topology: Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
nes 790; Conserv
                                                                                                                                                                                                                                                                                                                                                      mat_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 1686
                                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1325
                                                                                                                                                                                                                                                                                                                                                                                                                          Key
                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Óγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ||||||| || || ||| ||| ||| ||| || || ||| ||| ||| ||| || ||| || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || || |
155702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2279
                                                                                                                     gaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggagaagagtggaagag
                                                                                                                                                                                                                                                                                                                                                                                                        gtacctgcagaagtagaagtggaagaggtacctgcagaagtagaagtggaagag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gtaccagaagaagtagaagaggtacccgcagaagtagaagtggaagaggtaccagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gaagtggaagaggtaccagaaggaagtggaagaggtaccagaagaagtggaagaggtacca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gaagtaccagcggtagtagaagaagaggtgccagaagaagtagaagaagaagaagaagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gaagaaccagtagaagaagaagatgtattacaattagtaataccatcggaagaagatata
                                                                                                                                                                                                                                                                 ccagaagaagaattagaggcaactccagaggacgatttcgaattagaagaaccaacagga
                                                   ccagtggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaactccaagag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNA encoding a protein involved in Leucocytozoon phylaxis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              07-0CT-1997 (Rel. 52, Created)
02-SEP-2000 (Rel. 65, Last updated, Version 2)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          standard; RNA; UNC; 1686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1-1686
Kato A., Onaga H., Ueda S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JP 1995089995-A/1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Db 155521 CAA 155519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2460 caa 2462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         unidentified
unclassified
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             E08995.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            E08995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E08995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 18
E08995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2160
                                                                                                                                                                                                                                                              1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2340
              Db 156236
                                                 1800
                                                                                                                     1860
                                                                                                                                                                                           1920
                                                                                                                                                                                                                                                                                                                                  2040
                                                                                                                                                                                                                                                                                                                                                                                                      2100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2400
                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             õ
                                                                                                                    ò
                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
```

```
agaagctgcagaaggaagtatcagaagaaactccagaaggagaagaagaagttagaggc 1324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1385 agaaggaagaaaccgtagagggagaaaccgtagaggagaaaccgtagaggagagaagaagcgtagaggg 1444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1445 agaagaagctgcagaaggagaagaagaattagaggcaactccagaggatgacttccaatt 1504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1025 agtaccagcggaagaattagatgccactccagaggatgacttcgcattagatgttacaga 1084
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "POLYPEPTIDE INDUCING IMMUNITY AGAINST LEUCOCYTOZOON PROTOZOAN AND RECOMBINANT DNA MOLECULE CODING THE POLYPEPTIDE"; PATENT NUMBER 19199509955-A1, 04 -APR-1995. DOUBUTSUYOU SEIBUTSUGARUTEKI SEIZAI KYOKAI, NITSUSEIKEN KK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1205 tcgcattagacgaaactgcagaaggagaaacagaagaacgtagagggagaagaacaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    387 AAATGAAGAAGAACAAAATGAAGATGAACAAAATGAAGATGAAGATGAAAATGAAGAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1085 atctcccgaggaagtagaattagtattagatgaagaggcaactgaagaatcaacgga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   aactccagaggatgatttcgcattagatggaactacattagaagaaaccgaagaaactgc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           153 ACAAGAAGAACAAGAACAAGAATCGTAGAAGAACAAGAACAAGATGAAGAAGAAGAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGAAGAAGAAGAAGAACAACAAGAACAAGATGAAGAAGAACAAGATGAAGAAGAACA
                                                                                                                                                                                              10-SEP-1993 JP 1993226078
KATO ATSUSHI, ONNGA HIROSUKE, UEDA SUSUMU
CO7K14/44,A61K39/015,C12N1/21,C12N15/09,C12P21/02,G01N33/53,G01N33/569,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Leucocytozoon caulleryi"
/note="mRNA is derived from 2nd shizont"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 1686;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BP; 915 A; 129 C; 382 G; 260 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8.0%; Score 268; DB 23;
51.1%; Pred. No. 1.6e-29;
```

9

```
/product="11-1 polypeptide"
/protein_id="CAA30336.1"
/db_xref="G1:9826"
/translation="MKKESYRFLNISINNGSDKKKSNFFVKIKNGTDLKDTKKDRIRFHFYRYFLESLLMTY1YSNNCSNGKYKSTLY1YGNHLRFRGFRILAENEYEMKTKYKTLMYNIDDNDLGKRGNKTKRYTLYNDNNLSNNESKRKSRRKKVKNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NMODK TERDKEFEGFKNEYFTQMEGGAYGITVVBHEGOKLRETLFEGVEGYEKVIF

WACHDEFLICTUNEGKSDDFVSTMEEBERLFNEYSYMEBEVKNEYBERGGTEBER

DL.SDBK IGIEKKELFEFYVGOVSDEVLODEQLIEBERLTFEERKLTEBERL

EKLTEDBOLIEBERLTFEERKLTFEERKLTFEERKLTFEERKLTFEERKLT

EERKLFFEVERVEYFYFTATHEGKSKYTTQMBEKLLFEERLTFEE

I IEELVDEEVFAFFTAEIVEFFYENTYFEILHEKKYFTTHEGKSYVTQMBEKLJEE

POEVVEEVTTEELTEEVIPEELIEKVVEFEELJEKVVEFEELVEKVAAOKIVEVIPEELIEBVITEKPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SY ETLYKNNLFPNSNNY FLHMLKTY DEENKGIDENTDINENVEENEY VDKNTEGDKDG
VEDKGGGENEGGDGHGSAGDSAGGDRGGDENKDKDNEENKDKKCNKDDDDEEEEEEEE
DDEEKEEKDDKDEKDEKDEKDEKDEKDEKDEKDEKDEKGEKGEKGEKGEKFLKEEKMPKKEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BEVVPVEVLEEVIPEEVVEEVIPVEVLEEVIPEEVVEEVVEEVVPEEVPEEKVEEMPEEVEEV
PEVVEEVIPEELVEEVVPVELLEEVISEELLEEVIPEELVEEVVPEELVEEMKPEEVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BEVIPEVLVEEVIPEELVBEVIPEVLVEESVPEELVEEVIPELLVEEVVPEVVPEVQE
QLVBEFIPBEVVEELVPEELVEEVIPELVEEVVEEVVEETIPPESVIESVRPG"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KDNLEKREGKMKRRNKKEKRRKEKDNKKMNELKLKRREYKESYLLDNKSDMDVIRNDKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PEEIVEEEIHEEIVEEIIPEEVVEEVVPAEVEEMIPEKIVEEVIPEELVEEVVPVEVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EVLPEELIEEVIPEEIIEEVVIPEEVVEEVIPEEIVQEVIPEDLMEEVVPEEIIEEKI
                                                                                                                                                                                                                                                           2 (bases 1 to 4630)
Scheff,A., Carter,R., Petersen,C., Alano,P., Nelson,R., Alkawa,M.,
Mattei,D., Perelra da Silva,L. and Leech,J.
Gene inactivation of Pfll-1 of Plasmodium falciparum by chromosome
breakage and healing: identification of a gametocyte-specific
protein with a potential role in gametogenesis
EMBO J. 11 (6), 2293-2301 (1992)
                                   11-1 gene; antigen. malatite P. falciparum. malatite parasite P. falciparum. Plasmodium falciparum to Plasmodium falciparum alveolata; Apicomplexa; Haemosporida; Plasmodium. (hasss 1 to 4630) Scheff, A. Hilbich, C., Sieg, K., Mattei, D., Mercereau-Puljalon, O. and Muller-Hill, B.
                                                                                                                                                                                                                                                                                                                                                                                                    92289694
bp 1-4630 of a 10 kB Sau3A-EcoRI fragment of lambda d 11-1 show
Data kindly reviewed (27-Dec-1988) by Mueller-Hill B.
                                                                                                                                                                              The 11-1 gene of Plasmodium falciparum codes for distinct fast evolving repeats EMBO J. 7 (4), 1129-1137 (1988)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /product="11-1 mature polypeptide"
899. ,>4630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /organism="Plasmodium falciparum'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                579. .791
/gene="11-1"
join(579. .791,899. .>4630)
/gene="11-1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /gene="11-1" (4630)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /clone_lib="lambda EMBL4"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /strain="Palo Alto"
/db_xref="taxon:5833"
/clone="lambda d 11-1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 899. .>4630
/gene="11-1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         <579. .791
/gene="11-1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        792. .898
/qene="11-1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   'number-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  number=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .4630
                    X07453.1 GI:9825
  X07453 X66268
                                                                                                                                                                                                                                        88296416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   mat_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          intron
                                                                               ORGANISM
                                                                                                                   REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  exon
                                                                                                                                                                                                                                                             REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             exon
  ACCESSION
                  VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                             MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                        TITLE
                                                                                                                                                                                TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INV 25-MAR-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaa-ctccaagaggacg 1863
                                                                                                                                                                                                                                                                                                                                                                                                  1982 agaagaagaattagaggcaactccagaggacgatttcgaattagaagaaccaacaggaga 2041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1038 TGAAGATGAAAATAAAAATTCATCATTGAAAAACCAGAATTAAATGAAGCTACTAGAGG 1097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2042 agaagtagaagaaaccgtagagggcgaagaactgcagaaggagaagaagtaggaagaggt 2101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .098 CCGGAATTCCGGACCAGTAGTTGAAGAAGAAGAAGAAAAAACACCAGTAGTTGAAGAAGA 1157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              acctgcagaagtagaagtagaagtggaagagtacctgcagaagtagaagaagtggaagagt 2161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1158 AATGGTAGAAGAACACCTGTAGTTGAAGAAGAAATGATAGAAGAAACACCTGTAGTTGA 1217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              accagaagaagtagaagaggtacccgca---gaagtagaagagggaagaggtaccaga 2218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1218 AGAAGAAATGATAGAAGAACACCAGTAGTGGAAGAAGATGTCGTCGAAGAACACCAAT 1277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       agaagaagtggaagaagtggaagaagtagaagtagaagtagaggtaccagcggtagtagaagt 2338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGTAGTTGAAGAAATGATAGAAGAAGCTCCTGTAGTTGAAGAAGTAGTAGAAGAAAC 1397
1565 agcgttagtagcagtgccagtagtggccgaaccggtagaagtagtgactcctgctcagcc 1624
                                                                                                                                                           1685 cgatttaacgtatgcagacattacatcctttgagccattatttaaacaaatcctcaagga 1744
                                                                                                                                                                                                                                        1745 tcctgatgcaggagaggctgtaacagtaccatcaaaggaagcacctgtacaagtaccagt 1804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1518 TGTTGAAGAAACACCAGTATTTGAAGAAGAAGTTGTAGAAGAAACATCAGTAGTTGAAGA 1577
                                                                                                                                                                                                                                                                                                                                                                                                                               1924 aaggagaaccaacggaagaa--gagccaagagaaggagagccaacagaaggagaagtgcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            tgtcaaaccaatggtcgctccaacggcagatgaaactttattcgttgatatcttagataa
                                                                                                                                                                                                 -----TAAGAAAGAGACAAAAATAAAAAGCATGAAGTTGAAGAAGAACGAGAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     agaagtaccagcggtagtagaagaagaggtgccagaagaagtagaagaagaagaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGAAATGATAGAAGAACACCAGTAGTTGAAGAAAAGTAGTAGAA 1623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gcactaccaagacgttccaaaggaatttatggaagaagaagaagaa 2564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PF111A 4630 bp DNA Plasmodium falciparum 11-1 gene part 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   19
                                                                             1625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT
PF111A
ö
                                   9
                                                                             à
                                                                                                               8
                                                                                                                                                    ò
                                                                                                                                                                                            Q
                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                      Ω
                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
```

```
6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITAATACCAGAAGAATAATTGAGGAATTGGTGGTGAAGAACTTGTTGAAGAAGTAAC 2775
                                                                                                                                                                                                                                                                                                                                         2184
                                                                                                                                                                                                                                                                                                                                                                                                                                     2421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACTTGAGGATGTACTAATGGAAAAATGGAAAAGGAATATAAAAGAATTTTACATGAAGG 2655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAAAAGTGTAGTAACTCAAGATATGGATGAGAAATTATTATCTGAAAATCTCGAAGATGA 2715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2065 AACAAATGAGGGGAAAAGTGATGATTTTGTATCTGAAATGGAAGAGGAAAGACTCTTTAA 2124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tttggaagcaggggaagaactggcgatttggaagcaggggaagaaactggagatgcgga 721
                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tgtacaacctgccgatagtaatgatgccctctttggaagtattttggataaagatataat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2362 AGAGGAAAATTGACTGAAGAGGAAAAATTGACTGAAGATGAACAATTGATAGAAGAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    --acacagaagatagttcagctgatggagcagaaaagtacatgttcctgctcaagaaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ttttgatcatattaaagatttcgagccactattcgaacaaattgtggcgggtactgctaa
                                                                                                                                                                                                                                                                                                                 attggaaaatgcttctgatgatgttgtagaggtggaggatccttcaaacgacggtttaga
                                                                                                                                                                                                                                                                                                                                         2125 TTTTGTATCATATATGGAAGAAGAGGTAAAAGATAAAATGTTCATAGAACGGGAACAAGG
                                                                                                                                                                                                                                                                                                                                                                    attagaagaggaaaattttgatgagaattcaggtgatgatgaagctcttttagatgctac
                                                                                                                                                                                                                                                                                                                                                                                    cccgaagatgactttgccttaacagatttgccaattgaagacgatgaggaagtcaacga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           aacgttagatggaggtgaatcattaggagagtttccactgaagatatggaaacagaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GATTCAAGAGGAAAAATTGACTGAAGAGGAAAAATTGACTGAAGAGGAAAAATTGACTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tggctcaacagatgatacggaaacagaaggaaggactacctggtgatatggaaggagaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       agaagctggcgatatggaagcaggggaagaagctggtgatttggaagcaggggaagaaac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tggcgatttggaagcaggggaagaaactggcgatttggaagcaggggaagaagctggtga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GACTGAAGAGGAAAAATTGACTGAAGAGGAAAAATTGACTGAAGAGGAAAAATTGACTGA
                                                                                                                                                                                                                                 36;
                                                                                                                                                                                                    Length 4630;
                                                                                                                                                                                                    Score 263.8; DB 3; Length
Pred. No. 6.3e-29;
0; Mismatches 1282; Indels
                                                                                         /note="6R AA repeat region"
2723. .>4630
/gene="11-1"
/note="9R AA repeat region"
a 320 c 1045 g 1253 t
                                           /note="3R AA repeat region"
2306. .2557
/gene="11-1"
                         1697. .1804
/gene="11-1"
                                                                                                                                                                                                      7.9%;
Similarity 46.8%;
/gene="11-1"
                                                                                                                                                                                                    Query Match 7.99
Best Local Similarity 46.89
Matches 1159; Conservative
               /number=
                                                                                                                                                 2012
                          misc_feature
                                                                  misc_feature
                                                                                                           misc_feature
                                                                                                                                                BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2302
                                                                                                                                                                                                                                                                                                                242
                                                                                                                                                                                                                                                                                                                                                                    302
                                                                                                                                                                                                                                                                                                                                                                                                                          362
                                                                                                                                                                                                                                                                                                                                                                                                                                                   2245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2596
                                                                                                                                                                                                                                                           182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 oy
Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Op
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               oy
Op
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                οy
                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                     윤
                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                        QQ
                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                         oy
Oy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ζ
```

```
agaggagaagaagctgcagaaggagaagaagaagttagaggcaactccagaggatgactt 1498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  aggagaagcgttagtagcagtgccagtagtggccgaaccggtagaagtagtgactcctgc 1618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         caaggatectgatgeaggaggetgtaacagtaecateaaaggaageaectgtaeaagt 1798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           accagtggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaactccaaga 1858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGTTATACCAGAAGAAGTTGTTGAAGAAGTAATACCTGAGGAAATAGTTCAAGAGGTAAT 3720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gccagaagaagtaattagaggcaactccagaggacgatttcgaattagaagaaccaacagg 2038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             agaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggagaagaagtggaaga 2098
                                                                                                                                                                      3070 AAAACCT-GCTGAAGAGGTTATACCAGAACTCGTAGAAGAAGTTA--TACCTGAAGAAAT 3126
                                                                                                                                                                                                                                                          aacagaagaagctgcagaaggagaagtatcagaagaaactccagaaggagaagaagtt 1318
                                                                                                                                                                                                                                                                                                                                             3187 AGAGGTTATACCAGAAGAAGTTGTAGAAGAAGTACCAGAAGAATAGTTGAAGAGGTTGT 3246
                                                                                                                                                                                                                                                                                                                                                                             aactgcagaaggaagaaaccgtagagggagaaaaccgtagagggagagaagaaaccgt 1438
                                                                                                                                                                                                                                                                                                                                                                                                                                                     3367 TGTTGAAGAGGTTGTACCAGAAGAATTAGTTGAAGAGATGAAACCTGAAGAAGTTGTTGA 3426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   agataacgatttaacgtatgcagacattacatcctttgagccattatttaaacaaatcct 1738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCAGAAGATTTGATGGAAGAGGTTGTACCAGAAGAAATAATAGAAGAAAAGATACCTGA 3780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGTTGAAGAACCTGACGAAGTTGTTGAAGAGGTGACAACTGAGGAATTAACAGAAGGT
                                                                                       tacagaatctcccgaggaagtagaattagtattagatgaagaggcaactgaagaagaatc
                                                                                                       AGTIGAAGAGGTACTACCTGAAGAAGTTGTTAAAGAGGTTATACCTGAAGAAGTTGTTGA
                                                                                                                                                                                                                                                                                                                     agaggcaactccagaggatgatttcgcattagatggaactacattagaagaaaccgaaga
                                                                                                                                                                                                                                                                                                                                                                                                        ACCAGAAGAATTAGTTGAAGAGATGAAACCTGAAGAAGTTTTTGAAGAGGTGATATCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3427 GGAGGTTGTACCAGAAGAATTGGTTGAAGAGGTTATACCTGAAGAAGTTGT-----TGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGTCCCAGAAGTAGAAGTTGAGGAAATTATACCTAAAGAATTAGTTGAAGTTATACCAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGTCGAAGAGGTAGTTC-----CTGCAGAAGTAGAAAATGATACCTGAAAAATAGT
2836 AGAATTAGTTGAAGAGGTTATGCCTGAAGAAGATGTTGACGAGGTTGTACCAGAGGAATT
                              cgcgcaagtaccagcggaagaattagatgccactccagaggatgacttcgcattagatgt
                                                                                                                                             1139 aacggaagtgggaccaacggaagaaggaccaaccgaagaattagatgccactccagagga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3541
                                                                                    1079
                                                                                                                                                                                                                                                                                        3127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3895
                              1019
                                                                                                                                                                                                                                                                                                                     1319
                                                                                                                                                                                                                                                                                                                                                                             1379
                                                                                                                                                                                                                                                                                                                                                                                                         3247
                                                                                                                                                                                                                                                                                                                                                                                                                                      1439
                                                                                                                                                                                                                                                                                                                                                                                                                                                               3307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1859
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                              δ
                                                    Q
                                                                                 οy
                                                                                                            QQ
                                                                                                                                           QΥ
                                                                                                                                                                q
                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                            Ω
                                                                                                                                                                                                                                                                                  QQ
                                                                                                                                                                                                                                                                                                                  δy
                                                                                                                                                                                                                                                                                                                                               q
                                                                                                                                                                                                                                                                                                                                                                             δλ
                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                    Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         οy
```

```
2911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  488
                                                          mRNA
                                                                                                        CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AF056936 5420 bp DNA linear INV 10-MAY-2001 Plasmodium falciparum mature parasite-infected erythrocyte surface
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (01-APR-1998) Humanparasitology, Institute for Tropical Medicine, Wilhemstrasse 27, Tubingen 72074, Germany
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Repeat structures in a Plasmodium falciparum protein (MESA) that binds human erythrocyte protein 4.1 Mol. Blochem. Parasitol. 50 (2), 335-347 (1992) 92158014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        the
                                                                                                                                                                                                                 4315 GGTATTAGTTGAAGAGGTTATACCTGAAGAACTAGTAGAAGAAGTTATACCTGAGGTATT 4374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tccattgaaaccagaagattttgcaaaggaagattcacaatctacagaatggctcacatt 2635
              ggtacctgcagaagtagaagaagtggaagaggtacctgcagaagtagaagagtggaaga 2158
                                          AGTTGTACCAGTAGAAGTATTAGAAGAAGTTATACCTGAAGAAGTTGTTGAAGAAGTAAT 4014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4375 AGTTGAGGAAGAAGTACCTGAAGAACTAGTAGAAGAAGTTATACCTGAGTTATTAGTTGA 4434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AGAAGTTGTACCAGAAGTTGTTGAAGAGGTACAAGAGCAATTAGTTGAAGAGTTTATACC 4494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Kun, J.F., Waller, K.L. and Coppel, R.L. Plasmodium falciparum: structural and functional domains of mature-parasite-infected erythrocyte surface antigen Exp. Parasitol. 91 (3), 258-267 (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Plasmodium falciparum
Eukaryota; Alveolata; Apicomplexa; Haemosporida; Plasmodium
1 (bases 1 to 5420)
                                                                                                                                      agaagtggaagaggtaccagaaggaagtggaagaggtaccagaagaagtggaagaggtacc
                                                                                                                                                                                                                                                                               catgcactaccaagacgttccaaaggaatttatggaagaagaagaagaaactgcagtgta
                                                                                                      ACCAGTAGAAGTATTAGAAGAGTTATACCTGAAGAAGTTGTTGAAGAAGTAATACCAGA
                                                                                                                                                                  AGAATTTATTGAAGAAATGATACCTGAGGAAATAGTTGAAGAAGTGGTACCTGAAGTTGT
                                                                                                                                                                                                 agaagaagtggaagtagaagaagtagaagaagtagaggtaccagcggtagtagaagt
                                                                                                                                                                                                                                                               agaagtaccagcgg---tagtagaagaagaggtgccagaagaagtagaagaagaaga
                                                                                                                                                                                                                                                                                                                         agaggaagaaccagtagaaggaagatgtattacaattagtaataccatcggaagaaga
                                                                                                                                                                                                                                                                                                                                                       ACCAGAGGAATTAGTTGAAGAGATGAAACCTGAAGAAGTTTTAGAAGAGGTTATACCTGA
                                                                          ggtaccagaagaagtagaaggtacccgcagaagtagaagaagtggaagaggtaccaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               malaria parasite P. falciparum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          antigen gene, complete cds. AF056936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3 (bases 1 to 5420)
Kun,J.F.J. and Coppel,R.L.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AF056936.1 GI:3044184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (bases 1 to 5420)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cattcaaggcctagaag 2652
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGAAGAAGTTGTGGAAG 4511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Coppel, R.L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99172328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    10072328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1741020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
TITLE
             2099
                                          3955
                                                                       2159
                                                                                                      4015
                                                                                                                                                                  4075
                                                                                                                                                                                                                              4135
                                                                                                                                                                                                                                                           2339
                                                                                                                                                                                                                                                                                         4195
                                                                                                                                                                                                                                                                                                                        2396
                                                                                                                                                                                                                                                                                                                                                       4255
                                                                                                                                                                                                                                                                                                                                                                                     2456
                                                                                                                                                                                                                                                                                                                                                                                                                                                  2516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
JOURNAL
                                                                                                                                                                                                 2279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 2
AF056936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
             ð
                                                                       ð
                                                                                               8
                                                                                                                                  ò
                                                                                                                                                               8
                                                                                                                                                                                              ò
                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                õ
                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
```

```
KITSEFERETBUNK ITERSKIDERGINK VGGP YENGENSKYTSESSET KULAEKEENEG I

LGENVINGGASRNSEDPRKLITGERKOTKESSEETEDDK PEBREKKADNK KGSKKKK

FORMIGGNEY KORTEN TETTOBEET LVYNDDAK KKHFELREANTEKNDINEK KOKLIGES

KEDYKEKNDEQKONK VLGEGDKEDVREKNDEG KOKVLGEGDEDVK ERRINGK KOKVLGE

BITKOPTEGNOK VLGEGDKEDVREKNDEG KOKVLGEGDEDVK ERRINGK KOKVLGE

BITKOPTEGNOK VGP PEI IS EBV VEETKH VEEG IT KENVTEGNINK VG PEI IT TEEVKE

BITKOPTEGNOK VGP PEI IT SEV VEETKH VGF STITTEEVKE

BITKOPTEGNINK VGP PEI IT TEEVK ROUTEN TO OFFI IT TEEVKE

BITKOPTEGNINK VGP STITTEEVK TO OFFI IT TEEVK TO IT KRAVEK OT KENHTESK DK VI GOE

IT DET VEETKE BITKOPTEGNINK VGP STITTEEVKE

BITKOPTEGNINK FORMIGNE STATTOPT TO OFFI IT TEEVK TO IT KRAVEK TO TKENHTESK DK VI GOE

IT DET VEETKE BITKOPT TO OFFI IT TEEVK TO IT KRAVEK TO TKENHTESK DK VI GOE

IT DET VEETKE BITKOPT TO OFFI THE THE TO OFFI THE TO OFF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RKKEKEYLMKELEEMDESDVEKAFRELQFIKLRDRTRPRKHVNVMGESKETDESKETD
ESKETGESKETGESKETGESKETGESKETGESKETGESKETGESKETGESKETTGESKET
TGESKETGESKETGESKETGESKETGESKETGESKETGESKETGESKETGESKVTRIYEETKYT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               I EOGRER É EGVESY ERVTENKOT VI GOE I I I EBITK É EVK R'NYK R'NNK NENKDNV I VO
ENDREALKE TOT DANK DAY LOGER ER EBYEK BEEVEK BEEVEK BEEVEK BEVET SER SER KER BENK BENTES
KADE I EOGRER EGVER EVET BEVER DY TENDRA VI GOE I I I BETK REVK R'NK R'NENK BENK DY
VI VOE I MINED VI BEKOT BANK DY VI EOGEK E BEVKEK EEVKEK EEVK EK KETESK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /translation="mevicrnicydkknnmmenegnkvkkvynnsslkkymkfclcti
ICVFLLDIYTNCESPTYSYSSImnnnDRYVRILSETEPPMSLEEIMRTFDEDHLYSIR
NYIECLRNAPYIDDPLWGSVVTDKRNNCLQHIKLLEMQESERRRKQQEEENAKDIEEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IVQEIMNEDVNEKDTANKDKVIEQEKEKEEVKEVKEKDTVNKDKVIGQEVIIEEVKEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VKKRVKKRNNKNENKDNVIVQEIMNEDVNEKDTESKDKMIGKEVIIEEVKEEVKKRVN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PNMALNEDFRREFHNILSIHEDRDLMELKRILYNLFLEYNPHMNNKQKAELDKKFSEM
NVVHQILNYEERIRMYEENAARGRLNTVILDPIITFNVIFGDDTMFKFIDE"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DKEIEQEKEKEEVKEVKEKDTENKDKVIGOEIIIEEIKKEVKKRVKKRNNKNENKDNV
                                                                                                                                                                                                                           /product="mature parasite-infected erythrocyte surface
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1570 TAAAAAGAAACATAAATTTTTAAGAGGGAAACTAATACTGAAAAAAATGATAATGAAAAAGAA 1629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGATAAAGTGATAGGATCAGAAAAAACACAAAAGGAAATTAAAGAAAAAGTAGAAAAAG 1869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    agatgactttgccttaacagatttgccaattgaagacgatgaggaagtcaacgaaacgtt 427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            248 aaatgottotgatgatgttgtagaggtggaggatcottcaaacgacggtttagaattaga 307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  agatggaggtgaatcattaggagaggtttccactgaagatatggaaacagaagatggctc 487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         aacagatgatacggaaacagaaggactacctggtgatatggaaggaggaagaagc 547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           agaggaaaattttgatgagaattcaggtgatgatgaaactcttttagatgctaccccga
                                                                                                                                                                                                                                                                                                                                  join(1. .150,281. .5116)
/note="MBESA: PfEMP2"
/codon_starte parasite-infected erythrocyte :
/product="mature parasite-infected erythrocyte :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 5420;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    7.7%; Score 256.2; DB 3;
44.3%; Pred. No. 7.8e-28;
iive 0; Mismatches 1538;
/organism="Plasmodium falciparum"
                                                                                                                                                                    .>5116)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /protein_id="AAC13303.1"
/db_xref="G1:3044185"
                                                                                                             /db_xref-"taxon:5833"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            _
_
_
_
_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1079 g
                                                                                                                                                                    .150,281.
                                                      /strain-"Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 44.3
Matches 1243; Conservative
                                                                                                                                                                                join(<1.
                                                                                                                                                                                                                                                                                       antigen"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     antigen"
```

us-09-667-130-1\_1.rge

1929	607	667	727	781	841	901	961	1021	1081	1141	1201	1261 2649	1321	1381 2766	1441 2826	1501	1561 2946	1621 3006
agttaaaaaaagtgtaaaaaaaaagtaaaaaggaattaaagaaatgatactgaagg	tggcgatatggaagcagggaagaagctggtgatttggaagcaggggaagaactggcga 	tttggaagcaggggaagaactggcgatttggaagcaggggaagaagctggtgatttgga 	agcaggggaagaaattggcgatttggaagcaggggaagaaatggagatgcggaaattga 	agaaggagcaactggagatgcggaaactgaaaatggagcaactgtgtatgtaga 	cacagaagatagttcagctgatggagcagaaaagtacatgttcctgctcaagaaatgt 	acaacctgccgatagtaatgatgcctctttggaagtattttggataaagatatttt 	tgatcatattaaagatttcgagccactattcgaacaaattgtggcgggtactgctaaaca 	tgttacgggacaagaattgccaatgaacctgtaccattaccagtggcagaagagccgc 	gcaagtaccagcggaagaattagatgccactccagaggatgacttcgcattagatgttac 	agaatctcccgaggaagtagaattagtattagatgaagaggcaactgaagaagaatcaac 	ggaagtgggaccaacggaaggaccaaccgaagaattagatgccactccagaggatgg 		agaagaagctgcagaaggagaagtatcagaagaaactccagaaggagaagaagttaga 	ggcaactccagaggatgatttcgcattagatggaactacattagaagaaaccgaagaaac 	tgcagaaggagaaaccgtagaggagagaaccgtagagggagaagaaccgtaga 	gggagaagctgcagaagagagaagagttagaggcaactccagaggatgacttcca 	attagaagaaccatcaggagaaggagaaggggaaggagaaggagaaggggaaggaga	agaagcgttagtagcagtgccagtagtggccgaaccggtagaagtagtgactcctgctca 
1870	548 1930	608 1990	668	728	782	842	902	962	1022	1082	1142 2530	1202	1262 2650	1322	1382 2767	1442	1502	1562
qq	Qy	Qy Db	Qy	Oy Db	Qy Db	Oy Dp	Oy Db	Qy Db	Qy Dp	Qy	Qy Db	Oy Db	Oy Dp	oy Ob	Qy Db	Oy Dp	Qy	Qy Db

3427 AGAAGAAGTAAAAGAAGTTAAAGAAAAAAGATACCGAAAACAAAGATAAAGTGATAGGACA 3486 2510 catcgacatgcactaccaagacgttccaaaggaa---tttatggaagaagaagaagaaga 4027 AGATACCGTAAACAAAGATAAAGTGATAGGACAAGAAGTAATAATAGAAGAAGTAAAAGA 4086 3007 AGAAGTAAAAGAAAAAGATACCGAAAGCAAAGATAAAGAGATAGAACAAGAAAAAGAAAA 3066 2222 agtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtaccaga 2567 tgcagtgtatccattgaaaccagaagattttgcaaaggaagattcacaatctacagaatg gcctgtcaaaccaatggtcgctccaacggcagatgaaactttattcgttgatatcttaga taacgatttaacgtatgcagacattacatcctttgagccattatttaaacaaatcctcaa 3067 AGAAGAAGTAAAAGAAGTTAAAGAAAAAGATACCGAAAACAAAGATAAAGTGATAGGACA ggatcctgatgcaggagaggctgtaacagtaccatcaaaggaagcacctgtacaagtacc 1802 agtggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaactccaagagga 3187 TAAAAATGAAAACAAAGATAATGTGATAGTACAAGAAATAATGAACGAGATGTTACGAAA 2102 acctgcagaagtagaagtagaagtggaagaggtacctgcagaagtagaagtggaagaggt 2162 accagaagaagtagaagaggtacccgcagaagtagaagaagtggaagaggtaccagaaga agaagtggaagaagtggaagaagtagaagaagtagaggtaccagcggtagtagaagtaga ----aagaggaagaaccagtagaggaagaagatgtattacaattagtaataccatcgga agaagatatacaattagacaaaccaaagaaagacgaattaggctctggaatttatctat AGATAATGTGATAGTACAAGAAATAATGAACGAAGATGTTAACGAAAAAGATACCGCAAA geteacatteatteaaggeetagaaggegaetgggaaegattagaagtgagettaaataa agaagaagttagaagcaactccagaggacgatttcgaattagaagaaccaacaggaga agtaccagcggtagtagaagaagaggtgccagaagaagtagaagaagaaga-----1622 1742 2342 1862 1982 2042 2282 2450 g δy qq QY QQ δy g οy Db οy QQ ΩÝ g δ QQ Qγ q ò QQ δy Q Qγ q οy Ω δ Op Qγ qq δ qq φ q Q qq

윱 ð g ò g ò QQ ò g

```
51100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Strenges 1 to 174019

Burna, N. Bastien, V., Beda, F.,

Anderson, S., Baldwin, J., Barna, N., Bastien, V., Beda, F.,

Boyuslavkiy, L., Boukhgalter, B., Brown, A., Burkett, G.,

Campoplano, A., Castle, A., Choepel, Y., Colangelo, M., Collins, S.,

Collymore, A., Cooke, P., DeArellano, K., Dewar, K., Diaz, J. S.,

Collymore, A., Cooke, P., DeArellano, K., Dewar, K., Diaz, J. S.,

Collymore, A., Cooke, D., DeArellano, K., Dewar, K., Diaz, J. S.,

Collymore, A., Cooke, D., DeArellano, K., Dewar, K., Diaz, J. S.,

Collymore, A., Cooke, D., DeArellano, K., Dewar, K., Diaz, J. S.,

Candon, J., Gardon, G., Hagos, B., Haaford, A., Horton, L.,

Klein, J., Lakcoque, K., Lamazares, R., Landers, P., Lehoczky, J.,

Klein, J., Lakcoque, K., Lamazares, R., Landers, P., Marquis, N.,

McCarthy, M., McEwan, P., McGurk, A., McKernan, K., McPheeters, R.,

Murphy, T., Norman, C. H., O'Connor, T., O'Donnell, P.,

O'Nell, D., Ollvar, T. M., Ollver, J., Peterson, K., Plerre, N.,

Stange-Thomann, N., Schauer, S., Severy, P., Spencer, B.,

Stange-Thomann, N., Schauer, S., Severy, P., Spencer, B.,

Young, G., Zahnoun, J., Zimmer, A. and Zody, M., Trigilio, J.,

Voung, G., Zahnoun, J., Zimmer, A. and Zody, M.,

Direct, Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AC027267 174019 bp DNA linear HTG 10-MAY-2001
Homo sapiens chromosome 15 clone RP11-228G18 map 15, WORKING DRAFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Submitted (28-MAR-2000) Whitehead Institute/MIT Center for Genome Research, 320 Charles Street, Cambridge, MA 02141, USA ON MAY 10, 2001 this sequence version replaced 91:8139804. All repeats were laid-ntified using RepeatMasker: Smit, A.F.A. & Green, P. (1996-1997) http://ftp.genome.washington.edu/RM/RepeatMasker.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Center: Whitehead Institute/ MIT Center for Genome Research
tgaaaataaatggtcagaatatagtcaatttcaacaaaaggaaaggacccagctggttt 2806
                                                                                                                                                                                                                                     gagaaaacgagagtggagcgacgagaaatggaaaaatggtttaaagcagaagtcaaatc 2866
                                                                                                                                                                                                                                                                                      4147 AGTACAAGAAATAATGAACGAAGATGTTAACGAAAAGATACCGAAAGCAAAGATAAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2927 tottgtgaaagatatgtcacaatttgaaaacaagaaaaccaaaga 2971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 (bases 1 to 174019)
Birren, B., Linton, L., Nusbaum, C. and Lander, E. Homo saplens chromosome 15, clone RP11-228G18
Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE, 43 unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AC027267
AC027267.3 GI:14017534
HTG; HTGS_PHASE1; HTGS_DRAFT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (bases 1 to 174019)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                2867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
JOURNAL
                                                                                                                                                                                                                               2807
                                                                                                                 2747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AC027267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMMENT
```

```
Sequencing vector: M13, M77815; 90% of reads
Sequencing vector: Plasmid; n/a: 10% of reads
Chemistry: Dye-terminator Big Dye; 100% of reads
Assembly program: Phrap; version 0.960731
Consensus quality: 150458 bases at least 040
Consensus quality: 16515 bases at least 030
Consensus quality: 16515 bases at least 030
Consensus quality: 16598 bases at least 030
Insert size: 159800; agarose-fp
Insert size: 169819; sum-of-contigs
Quality coverage: 4.7 in 020 bases; agarose-fp
Quality coverage: 4.2 in 020 bases; agarose-fp
Quality coverage: 4.2 in 020 bases; accounting draft's sequence. It currently
* OFFE: This is a 'working draft' sequence record is
* is not known and their order in this sequence record is
                                                                                                                                                                                                                                                                                    arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                          13487: contig of 13487 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              30654: gap of 100 bp 32124: contig of 1470 bp in length 3224: gap of 100 bp 33734: gap of 100 bp 33734: gap of 100 bp 33550: contig of 1786 bp in length 35520: contig of 1786 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                         13488 13587: gap of 100 bp
13588 14626: contig of 1039 bp in length
14627 14726: gap of 100 bp
14727 15793: contig of 1067 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            p of 100 bp contig of 1164 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     57: gap of 100 bp | 18291: contig of 1134 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           p of 100 bp
contig of 1655 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21486: gap of 100 bp
22760: contig of 1274 bp in length
22860: gap of 100 bp
24053: contig of 100 bp
24053: gap of 100 bp
25081: contig of 1028 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            36933: gap of 100 bp 38632: contig of 1699 bp in length 38732: gap of 100 bp 40793: contig of 1961 bp in length 40793: gap of 100 bp 41899: contig of 1106 bp in length 41899: contig of 1106 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100 bp
1240 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         57: gap of 100 bp
27574: contig of 1117 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  p of 100 bp contig of 1082 bp in length p of 100 bp contig of 1698 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 o of 100 bp contig of 1677 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         o of 100 bp
contig of 2229 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   81: gap of 100 bp 26357: contig of 1176 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20: gap of 100 bp
36833: contig of 1213 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                p of 100 bp
contig of 1911 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                44010: gap of . 100 bp 45470: contig of 1460 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               o of 100 bp
contig of 1423 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                27674: gap of
28756: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          43910: con+
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15794 15893: gap of
15894 17057: con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     17058 17157: gap of 17158 18291: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          28856: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    51199: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             : gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20046:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21386:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30554:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 51099:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  46993:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20146:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          41999:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     47093:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            35620:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             45570:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18292 18391
18392 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            26457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 25082
25182
26458
26458
27575
27675
28757
30675
30655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             45471
45571
46994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           48771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       44011
```

```
7;
                                                                                                                                                                                                                                                                  66609 GAAGGAGGAGGGGGGGGGGGAGCAGGAGATGTCGGAGCAGGTGGAGATGCGGGA 66668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         67089 AGGAGCAGAAGATGTGGGACCAGGAGGAGGATGTGGGAGCAGGACGAGAGGCTGCGGG 67148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     66429 GCAGATGCAGGAGCAGGAGGAGGAGATGTGGGAGCAGGAGGAGAAGATGCGGGAGCAGGA 66488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               66489 AGAGAAGATGTGGAGACAGGAGGAGAGGCTGTGGGAGCAGGAGAAGCAGATGCGGGAGCA 66548
                                                                                                                                                                                                          66198 GGAGGAGATGTGGAGGCAGGAGGAGGAGCTACGGGAGGAAAAGAAGAAGATACGGAAGCA 66257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    agaagaaaccgaagaaactgcagaaggagaagaaaccgtagaggagagaaaaccgtaga 1423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gggagaagaaaccgt---agagggagaagaagctgcagaaggagaagaagagttagaggc 1480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            951 actgctaaacatgttacgggacaagaattgccaatgaaacc---tgtaccattaccagtg 1007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1185 gccactccagaggatggatttcgcattagacgaaactgcagaaggagaaacagaagaaac 1244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ggagaagaagagttagaggcaactccagaggatgatttcgca-ttagatggaactacatt 1363
                                                                                                                                                                                                                                                                                                                                                                                            ggagatgcggaaactgaagaaggagcaactggagatgcggaaactgaaaatggagcaact 770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    891 gatataatttttgatcatattaaagatttcgagccactattcgaacaaattgtggcgggt 950
                                                                                                                                                                                                                                                                                                                       gaagetggtgatttggaageaggggaagaaactggegatttggaageaggggaagaaact 710
                                                                                                                                  27; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gcagaagagcccgcgcaagtaccagcggaagaattagatgccactccagaggatgacttc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gcattagatgttacagaatctcccgaggaa---gtagaattagtattagatgaagaggca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             66729 ggaggagagarakcegagceggagagagagareceggaagaggaggagagacarecegga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1125 actgaagaagaatcaacggaagtgggaccaacggaagaagaaggaccaaccgaagaattagat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gtagagggagaagaagaagaagctgcagaaggagaagtatcagaagaaactccagaa
                                                                                                                                                                         531 gaaggagaagaagaagctggcgatatggaagcaggggaagaagctggtgatttggaagca
                                                                                                                                                                                                                                             591 ggggaagaaactggcgatttggaagcaggggaagaaactggcgatttggaagcaggggaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gtgtatgtagacacagaagatagttcagctgatggagcagaaaaagtacatgttcctgct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       66549 GGAGCAGAAGATGCGGGACCAAGAGGAGGATGTGGGAGCAGGACGAGGCTACGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       66849 GCAGCAGCAGAGGCTGCCGGAACAGAAGGAGAAGCTGTGGGAACAGGAGAAGATGCAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              caagaaaatgtacaacctgccgatagtaatgatgccctctttggaagtattttggataaa
                                                                                               Length 174019
                                                                                                                                  Indels
                                                                                               DB 2;
                                                                                                                                  0; Mismatches 942;
                                                                                           7.7%; Score 255.8; DB 48.6%; Pred. No. 7.6e-28
32225. .33634
/note="assembly_fragment"
33735. .35520
/note="assembly_fragment"
                                                                                             Query Match 7.7
Best Local Similarity 48.6
Matches 918; Conservative
 misc_feature
                                      misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1424
                                                                                                                                                                                                                                                                                                                                                                                            711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                         ò
                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                       ŏ
                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                              qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ογ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             qα
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               . g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
```

_	iNCE 1 (bases 1 to 170276)  Nuzny, D.M., Addms, C., Adio-Oduola, B., Ali-osman, F.R., Allen, C., Alabrooks, S.L., Amaratunge, H.C., Are, J.R., Banks, T, Barbaria, J., Banton, J., Bimage, K., Blankenburg, K., Bonnin, D., Bouck, J., Borter, S., Brieva, M., Brown, E., Brown, M., Bryant, N.P., Buhay, C., Burch, P., Burch, P., Burkett, C., Burrell, K.L., Byrd, N.C., Carron, T.F., Carter, M., Cavazco, S.R., Chacko, J., Chavez, D., Chen, G., Chen, C., Chow, C., Chen, R., Chen, Z., Chowdhry, I., Christopoulos, C., Cleveland, C.D., Cox, C., Davy-Carroll, L., Dederich, D.A., Delaney, K.R., Delgado, O.	Denn, A.L., Ding, Y., Dinh, H. H., Douthwaite, K.J., Draper, H., Dugan, A.C., Edgar, D., Edwards, C.C., Elhaj, C., Escotto, M., Falls, T., Ferraguto, D., Flagar, D., Edwards, C.C., Elhaj, C., Escotto, M., Falls, T., Ferraguto, D., Flago, N., Ford, J., Gabisi, A., Gao, J., Garcia, A., Garner, T., Garzan, N., Gill, R., Gorell, J. H., Guevaran M., Gunarathe, P., Hale, S., Hamilton, K., Harris, C., Harris, K., Hart, M., Havlak, P., Hawes, A., Hernandez, D., Hongson, A., Hogues, M., Holloway, C., Hollins, B., Homsi, F., Howard, S., Huber, J., Holloway, C., Jodkson, L.E., Jacobson, B., Johnson, R., Jolivet, S., Joddah, S., Karlsson, E., Kally, S., Kan, U., King, L., Korvah, J., Kovar, C., Kratovic, J., Kureshi, A., Landry, N., Leal, B., Lewis, L.C., Freit, M., Fring, J., Leal, B., Lewis, L.C., Freit, M., Fring, J., Leal, B., Lewis, L.C., Freit, J., Freit, J., Leal, B., Lewis, L.C., Freit, J., Fr	Louiseged, H., Lozado, R., Lu, X., Lucier, A., Lucier, R., Luna, R., Louiseged, H., Lozado, R., Martin, R., Lucier, R., Luna, R., Mahari, M., Mapua, P., Martin, R., Martindale, A., Martinez, E., Mawhiney, E., McLeod, M.P., Meador, M., Meire, G., Mitchell, T., Mohabbat, R., Morgan, M., Morris, S., Moser, M., Near, D., Newtson, J., Newtson, N., Nguyen, N., Nguyen, N., Nickerson, E., Nwokenkwo, S., Oguh, M., Okwuonu, G., Oragunye, N., Ortedo, R., Pace, A., Paycon, B., Peery, J., Perez, L., Peters, L., Pickens, R., Primus, E., Pu, L. L., Quiles, M., Ren, Y., Rives, M., Robas, A., Robabat, R., Role, M., Ran, Y., Rives, M., Robas, A., Robabat, R., Robabat, R., Robabat, R., Savery, G., Scherer, S., Scott, G., Shen, H., Shooshtari, N.,	Sisson, I., Sodergren, E., Sonakke, T., Sparks, A., Stanley, H., Stone, H., Sutton, A., Svatek, A., Tabor, P., Tamerisa, R., Tang, H., Tansey, J., Taylor, C., Taylor, P., Telfrod, B., Thomas, N., Thomas, S., Usmani, K., Vasquez, L., Vera, V., Villalon, D., Vinson, R., Wall, K., Wang, S., Ward-Moore, S., Warren, R., Washington, C., Watlington, S., Williams, G., Williamson, A., Wleczyk, R., Wooden, S., Worley, K., Wu, C., Wu, Y., Wu, Y. F., Zhou, J., Zorrilla, S., Nelson, D., B. Direct Submission MAIL Unpublished I (Dases I to 170276)	Wor Dir Sub of Bay	Center project Information Center project name: GKHO Center clone name: GKHO Center clone name: GKHO Center clone name: Hold of the project name: GKHO Assembly program: Phrap; version 0.990329First call to findPhrapList Consensus quality: 139818 bases at least Q40 Consensus quality: 147078 bases at least Q30 Consensus quality: 153529 bases at least Q30 Consensus quality: 153529 bases at least Q30 Consensus quality: 153529 bases at least Q30 Estimated insert size: 145171; sum-of-contigs estimation Quality coverage: Ox in Q20 bases; agarose-fp estimation Quality coverage: 2.2x in Q20 bases; sum-of-contigs estimation * NOTE: Estimated insert size may differ from sequence length (see http://www.hgsc.bcm.tmc.edu/docs/Genbank_draft_data.html).
SOURCE	REFERENCE AUTHORS			TITLE JOURNAL REFERENCE	AUTHORS TITLE JOURNAL COMMENT	
Oy       1481 mactccagaggatgatctccaattagaagaaccatcaggagaaaggagaaagggaaaggagaa       1540         I       I       I       IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII		attatttaaacaaatcctcaaggatcctgatgcaggagaggctgtaacagtaccatcaaa	1893 ccagaggaaggaattagtattagaaggagaaaggagaaccaacggaagaagccaaga 1893 ccagaggaagtaattagtattagaaggagaaaggagaaccaacggaagaagagccaaga 1911	67689 GCAGGAGGAAGAAGATGCAGGAGCAGGAGAATGATGTGGGAGCAGAAGAAA 2073 actgcagaaggagaagagtggaagaggtacctgcagaagtagaagaagtggaagaggta 1073 actgcagaaggagaagagtggaagaggtacctgcagaagtagaagaagtgaagaggta 1111	2193 gtagaagaagtggaagagtaccagaagaagtggaagaggtaccagaagaagtggaagag 	Db 67989 GCAGGAGGAGAGGAGGAGGATACGAGATCAGAAAGAGAGGA 68048  Oy 2373 gaagaagtagaagaagaagaagag 2399  Db 68049 GAGCTGCCACACACACACAGGACGGTG 68075  RESULT 22  AC106251  LOCUS  AC106251  LOCUS  AC106251  AC106251  AC106251  AC106251  AC106251  AC106251  COCUS  AC106251  AC106251  AC106251  AC106251  AC106251  AC106251  AC106251  AC106251  AC106251  WRATURD AC106251  ACCESSION  AC106251  ACCESSION  AC106251  ACCESSION  AC106251  ACCESSION  AC106251  ACCESSION  ACTION  ACTION

```
arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
NOTE: This is a 'working draft' sequence. It currently consists of 62 contigs. The true order of the pieces is not known and their order in this sequence record is
                                                                                                                y of 8751 we of unknown length of 9710 bp in length
                                                                                                                                                                length
bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         in length
                                                                                                                                                                                                                                                                                                 in length
                                                                                                                                                                                                                                                                                                                                                          in length
                                                                                                                                                                                                                                                                                                                                                                                      in length
                                                                                                                                                                                                                                                                                                                                                                                                                 in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                  bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        in length
                                                                                                                                                                                                            in length
                                                                                                                                                                                                                                         in length
                                                                                                                                                                                                                                                                     in length
                                                                                                                                                                                                                                                                                                                              in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    length
bp in 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                length
bp in le
                                                                                                                                                                                              length
                                                                                                                                                                                                                                                                                    length
                                                                                                                                                                                                                                                                                                                                                                                                                                  length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              length
                                                                                                                                                                                                                         length
                                                                                                                                                                                                                                                                                                              length
                                                                                                                                                                                                                                                                                                                                            length
                                                                                                                                                                                                                                                                                                                                                                                                     length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         length
                                                                                                                                                                                                                                                        length
                                                                                                                                                                                                                                                                                                                                                                         length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         length
                                                                                                                                                                  unknown
of 7900
                                                                                                                                                                                            unknown
of 8179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                unknown
of 5465 l
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          unknown
of 3246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  unknown
of 2823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              unknown
of 1828
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              unknown
of 1235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          unknown
of 1497
                                                                                                                                                                                                                         unknown
of 5788
                                                                                                                                                                                                                                                                                                              unknown
of 5467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  unknown
of 2561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  unknown
of 2059
                                                                                                                                                                                                                                                                                                                                                          4216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2852
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 unknown
                                                                                                                                                                                                                                                        unknown
                                                                                                                                                                                                                                                                                                 3779
                                                                                                                                                                                                                                                                                                                                            unknown
                                                                                                                                                                                                                                                                                                                                                                                       4131
                                                                                                                                                                                                                                                                                                                                                                                                       unknown
                                                                                                                                                                                                                                                                                                                                                                                                                   4949
                                                                                                                                                                                                                                                                                                                                                                                                                                    unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                  2818
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                of 1121
                                                                                                                                                                                                                                                                                                                                                                                       oŧ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  οţ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     jo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        oţ
                                                                                                                                                                                                                                                                                                                                                                                                                    οŧ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ō
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          öţ
                                                                                                                     contig
gap of
contig
                                                                                                                                                                                                                                       contig
gap of
                                                                                                                                                                                                                                                       gap of
                                                                                                                                                                                                                                                                                                                                                                                       contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gap of
contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gap of
contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gap of
contig
                                                                                                                                                                                 contig
                                                                                                                                                                                                             contig
                                                                                                                                                                                                                                                                                                  contiq
                                                                                                                                                                                                                                                                                                                               contig
                                                                                                                                                                                                                                                                                                                                                        contig
                                                                                                                                                                                                                                                                                                                                                                                                                    contiq
                                                                                                                                                                                                                                                                                                                                                                                                                                                  contiq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   contiq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           οŧ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   contiq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           contig
                                                                                                                                                                                                                                                                                                                                            of
                                                                                                                                                                                                                                                                                                                                                                         of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      οŧ
                                                                                                                                                                  gap of
                                                                                                                                                                                              gap of
                                                                                                                                                                                                                           of
                                                                                                                                                                                                                                                                                    of
                                                                                                                                                                                                                                                                                                                                                                                                                                  ō
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ot
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ot
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of
                                                                                                                                                                                                                                                                                                                gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                    gap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gap
                                                                                                                                                                                            26661:
34840:
34940:
40728:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .02133:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                123952:
126011:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        12494:
                                                                                                                                                                                                                                                       40828:
                                                                                                                                                                                                                                                                     45946:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     02033:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             07908:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           09936:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           18621:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20218:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21682:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     84000:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          09836:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13903:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .23852:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            77571:
80817:
                                                                                                                                                                                                                                                                                                                                                                         59808
                                                                                                                                                                                                                                                                                                                                                                                                   64039
                                                                                                                                                                                                                                                                                                                                                                                       63939
                                                                                                                                                                                                                                                                                                                                                                                                                   68988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    87073
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 89834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         80917
                                                                                                                                                               118562
226662
226662
226662
334841
334941
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
44082
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          77472
77572
80018
80018
84001
84001
847074
87174
89735
92282
96282
96283
96339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                102034
102134
104957
105057
107909
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20119
20219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        09937
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   14004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121683
121783
123853
123953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           09837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9909
```

```
tttcgaattagaagaaccaacaggagaagaagtagaagaaaccgtagagggcgaagaaac 2074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2075 tgcagaaggagaagaagtggaagaggtacctgcagaagtagaagtagaagtggaagaggtacc 2134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tgcagaagtagaagtggaagaggtaccagaagaagtagaaggtacccgcagaagt 2194
                                                                                                                                                                                                                                                                                                                                                                                                                  agaggaaggagaattagtattagaaggagaaggagaaccaacggaagaagagccaagaga 1954
                                                                                                                                                                                                                                                                                                                                                                                                                                                  aggagagccaacagaaggagaagtgccagaagaagaattagaggcaactccagaggacga
                                                                                                                                                                                                                                                                                                                                                                                 Length 170276;
                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                      in length
                                                                                                                                                                                                                                                                                      length
                                                                                                                                                                                                                                                                                                                    in length
in length
                               length
                                              in length
                                                                              length
                                                                                             in length
                                                                                                            in length
                                                                                                                           length
                                                                                                                                           in length
                                                                                                                                                          in length
                                                                                                                                                                         length
                                                                                                                                                                                         length
                                                                                                                                                                                                        length
                                                                                                                                                                                                                       in length
                                                                                                                                                                                                                                      in length
                                                                                                                                                                                                                                                                      in length
                                                                                                                                                                                                                                                                                                     length
                                                                                                                                                                                                                                                                                                                                   in length
                                                                                                                                                                                                                                                                                                                                                   length
                                                                                                                                                                                                                                                                                                                                                                   bp in length
                                                                                                                                                                                  ength.
                                                                                                                                                                                                                                                                                              length
                                                                                                                                                                                                                                                                                                                                             length
                                                      ength.
                                                                      ength.
                                                                                                                    ength
                                                                                                                                    length
                                                                                                                                                   length
                                                                                                                                                                                                Length
                                                                                                                                                                                                                                length
                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                              length
                                                                                                                                                                                                                                                                                                             length
                                                                                      Length
                                                                                                      ength
                                                                                                                                                                  ength
                                                                                                                                                                                                               length
                                                                                                                                                                                                                                                                                                                             length
         Length
                        ength
                                        Length
                                                                                                                                                                                                                                                length
                                                                                                                                                                                                                                                                                                                                                            length
                                 Ţ
                                                                               i.n
                                                                                                                            in
                                                                                                                                                                         i
                                                                                                                                                                                         in
                                                                                                                                                                                                         ij
                                                                                                                                                                                                                                                                                                      ijυ
                                                                                                                                                                                                                                                                                                                                                     in
                                                                                                                                                                                                                                                                                                                                                                                  Score 253.2; DB 2;
Pred. No. 1.8e-27;
0; Mismatches 298;
                                                                                                                                                                                                                                                                                       pp in
                                                                                                                                   unknown
of 1260
                                                                                                                                                                                                                                                                                             unknown
of 1297
                                                                                                                                                                         1455
                                                                                                                                                                                                        1606
                                                                                                                                                                                                                                                                                                                                   1110
                                                                                                            of 1425
                                                                                                                                                          of 1471
                                                                                                                                                                                               unknown
                                                                                                                                                                                                                                      of 1390
                                                                                                                                                                                                                                                      of 1158
                                                                                                                                                                                                                                                                      of 1367
                                                                      unknown
                                                                                                                   unknown
                                                                                                                            1429
                                                                                                                                                   unknown
                                                                                                                                                                                                                unknown
                                                                                                                                                                                                                                unknown
                                                                                                                                                                                                                                                                              unknown
                                                                                                                                                                                                                                                                                                             unknown
                                                                                                                                                                                                                                                                                                                     of 1354
                                                                                                                                                                                                                                                                                                                                             unknown
                                                                                                                                                                                                                                                                                                                                                    1322
                                                                                                                                                                                                                                                                                                                                                                  of 1283
contig
gap of
contig
gap of
                               contig
gap of
                                              contig
gap of
                                                                                     gap of
contig
                                                                                                           contig
gap of
contig
gap of
contig
gap of
contig
gap of
                                                                                                                                                                                       contig
gap of
contig
gap of
contig
                                                                                                                                                                                                                                              gap of
contig
                                                                                                                                                                                                                                                                     contig
gap of
                                                                                                                                                                                                                                                                                                                                                            gap of
contig
                                                                                                                                                                                                                               gap of
                                                                                                                                                                                                                                                                                                                                           gap of
                                                              contig
                                                                              contig
                                                                                                     οĘ
                                                                                                                                                                                                                                        contig
                                                                                                                                                                                                                                                               οĮ
                                                                                                                                                                                                                                                                                     contig
                                                                                                                                                                                                                                                                                                                     contig
                                                                                                                                                                                                                                                                                                                                    contig
                                                                                                                                                                                                                                                                                                                                                    contig
                                                                      gap of
                                                                                                                                                                                                                                                                                                      contig
                                                                                                                                                                                                                                                                                                            gap of
                                                                                                                                                                                                                                                                                                                            gap of
                                                                                                                                                                                                                                                                                            gap of
                                                                                                      gap
                                                                                                                                                                                                                                                               gap
                                                                                                                                                                                                                                                                                                                                                                                                  .;
                                                                                                                                                                                                                                                                                                                                                                                  7.68;
59.28;
                                                                                                                                                                                                                                                                                                                                                                  162929:
                                                                                                                                                                                                                                                                                                                                                   546:
                                                                                                                                                                                                                                                                             4948
                                                                                                                                                                                                                                                                       54848
                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 432; Conserv
        127960
128060
129659
129759
131350
131450
133215
133315
135627
136925
                                                                                                                   140138
                                                                                                                                                        143127
144598
144698
146153
146253
                                                                                                                                                                                                              149413
149513
                                                                                                                                                                                                                                                                     153482
154849
154949
156064
156164
                                                                                                                                                                                                                                                                                                           157461
157561
158915
159015
160125
                                                                                                                                                                                                                                                                                                                                                  160225
161547
161647
                                                                                            137025
138613
                                                                                                                                  141667
                                                                                                                                                                                                                                                               53382
                                                                                                            38713
                                                                                                                                                  43027
                                                                                                                                                                                                                                50634
                                                                                                                                                                                                                                               52124
                                                                                                                                                                                                                                                                                                                                                                                          Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2135
                                                                                                                                                                                                                                                                                                                                                                                                                                                 1955
                                                                                                                                                                                                                                                                                                                                                                                                                  1895
                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
```

ó

in length

ò a ò g ò g ò a ò 9 ò

us-09-667-130-1\_1.rge

```
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Alsbrooks, S.L., Amaratunge, H.C., Are, J.R., Banks, T., Barbaria, J., Babbrooks, S.L., Amaratunge, H.C., Are, J.R., Banks, T., Barbaria, J., Babbrooks, S.L., Amaratunge, H.C., Are, J.R., Banks, T., Barbaria, J., Bankenburg, K., Bonnin, D., Boude, J., Bunge, K., Bonnin, D., Boude, J., Bundage, K., Bonnin, D., Boude, J., Buhay, C., Burch, P., Burket, C., Burrell, K.L., Byrd, N.C., Carron, T.F., Carter, M., Cavazos, S.R., Chacko, J., Chavez, D., Chen, G., Chen, R., Chen, M.D., Dathorne, S.R., David, R., Davila, M.L., Davis, C., Coyle, M.D., Dathorne, S.R., Dalaney, K.R., Delaney, K.R., Delgado, O., Denn, A.L., Ding, Y., Dinh, H.H., Douthwaite, K.J., Davis, C., Davis, C., Denn, R.J., Earhlart, C., Egortto, M., Falls, T., Ferraguto, D., Flagg, N., Ford, J., Foster, P., Frantz, P., Cabls, J.H., Gaovara, W., Gunaratne, P., Hale, S., Hamilton, K., Harris, C., Harris, K., Hart, M., Havlak, P., Hawes, A., Jackson, L.E., Jacobson, B., Jak, Y., Johnson, R., Johlson, R., Johnson, R., Lewis, L., Liu, J., Liu, W., Lewis, L., Liu, J., Liu, M., Lozado, R.J., Lu, X., Lucier, R., Lucier, R., Luna, R., Martinez, E., Massey, E., Mawhiney, E., McLeod, M.P., Medador, M., Mertzker, M., Morre, G., Miner, Z., Mitchell, T., Mohabbat, R., Martinez, E., Massey, E., Mawhiney, E., Mitchell, T., Nowtson, J., Newtson, J., Newtso
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACUMBS55 199508 bp DNA linear HTG 20-DEC-2001
Rattus norvegicus clone CH230-78N1, *** SEQUENCING IN PROGRESS ***,
68 unordered pleces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Métazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
                                                                                                                                                                                         2255 accagaagaagtggaagaggtaccagaagtggaagtagaagtggaagaagtagaagaagt 2314
                                                                                                                                                                                                                                                                                                        agaggtaccagcggtagtagtagaagtagaagtaccagcggtagtagaagaagaggtgccaga 2374
                                                                                                                                                                                                                                                                                                                                                                                                                                                           agaagtagaagaagaagaagaagaagaagaaccagtagaagaagaagatgtattacaatt 2434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2195 agaagaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagagt 2254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tggaattttatctatcatcgacatgcactaccaagacgttccaaaggaatttatggaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      agaagaagaaactgcagtgtatccattgaaaccagaagattttgcaaaggaagattcaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AC098555.2 GI:17973208
HTG; HTGS_PHASE1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (bases 1 to 199508)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rattus norvegicus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24078 AGAAGAAGAA 24087
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2615 atctacagaa 2624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Norway rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM
                                                                                                                                                                                                                                                                                                2315
                                                                                                                                                                                                                                                                                                                                                                                                                                                       2375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 2
AC098555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VERSION
KEYWORDS
```

g

g

ò g ö

```
Nguyen, A., Nguyen, N., Nguyen, N., Nickerson, E., Nwokenkwo, S., Oguh, M., Okwonnu, G., Orgagunye, N., Oviedo, R., Pacce, A., Payton, B., Perery, J., Perers, L., Pickens, R., Primus, E., Pu, L.L., Quiles, M., Ren, Y., Rives, M., Rojas, A., Rojubokan, I., Rolfe, M., Ruiz, S., Savery, G., Scherer, S., Scott, G., Shen, H., Shooshtari, N., Sisson, I., Sodergren, E., Sonaike, T., Sparks, A., Stanley, H., Tansey, J., Taylor, P., Tamerisa, A., Tamerisa, K., Tang, H., Tansey, J., Taylor, C., Taylor, T., Telfrod, B., Thomas, N., Thomas, S., Usmani, K., Vasquez, L., Vera, V., Villalon, D., Vinson, R., Wall, R., Wang, S., Warlen, S., Warren, R., Washington, C., Watlington, S., Williams, G., Williamson, A., Walczyk, R., Wooden, S., Weinstock, G. and Gibbs, R., Chou, J., Zorrilla, S., Nelson, D., Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NOTE: Estimated insert size may differ from sequence length (see http://www.hgsc.bcm.tmc.edu/docs/Genbank_draft_data.html).
NOTE: This is a "working draft" sequence. It currently consists of 68 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                    Organization (2 bases 1 to 199508)
Worley, K.C.
Direct Submitted (24-OST-2001) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Piaza, Houston, TX 77030, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Consensus quality: 160448 bases at least Q40
Consensus quality: 166841 bases at least Q30
Consensus quality: 176755 bases at least Q20
Estimated insert size: 168032; sum-of-contigs estimation
Quality coverage: Ox in Q20 bases; agarose-fp estimation
Quality coverage: 2.1x in Q20 bases; sum-of-contigs estimation
                                                                                                                                                                                                                                                                                                                                                                                                                                             Baylor Plaza, Houston, TX 77030, usa
On Dec 20, 2001 this sequence version replaced g1:16356760.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Assembly program: Phrap; version 0.990329First call to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gap of unknown length contig of 8504 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        bp in length
length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          length
bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  length
bp in 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gap of unknown length contig of 4409 bp in l
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Web site: http://www.hgsc.bcm.tmc.edu/
Contact: hgsc-help@bcm.tmc.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Center: Baylor College of Medicine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      unknown 1
of 7137 b
unknown 1
of 6592 b
unknown 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    unknown J
of 6732 b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  unknown lof 7679 h
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    unknown
of 5291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     contig of 6674
gap of unknown
contig of 8265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gap of unknown contig of 4029
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      7235: contig of 7235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Project Information
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Center project name: GHJS
Center clone name: CH230-78N1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .----- Summary Statistics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ō
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           22713: 9
30978: 9
31078: 9
37810: 9
37910: 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15939:
22613:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  56261:
63940:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             73940:
77969:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Center code: BCM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15839:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               56161:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       73840:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            51839:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             64040:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           7236
7336
15840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15940
222614
30979
31079
31079
37811
37811
45048
45148
55162
56162
56262
64041
64041
64041
64041
```

us-09-667-130-1\_1.rge

```
length
bp in length
length
                                                                                                                                       length
bp in length
                                                                                                                                                                                                                          in length
                                                                                                                                                                                                                                                        bp in length
                                                                                                                                                                                                                                                                             length
bp in length
                                                                                                                                                                                                                                                                                                    in length
                                                                                                                                                                                                                                                                                                                    in length
                                                                                                                                                                                                                                                                                                                                         unknown length
of 2868 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                            of 1376 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                            of 1650 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                         bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    bp in length
                                     bp in length
                                                     in length
                                                                                    bp in length
                                                                                                  in length
                                                                                                                 in length
                                                                                                                                of 3341 bp in length
                                                                                                                                                              bp in length
                                                                                                                                                                                            bp in length
                                                                                                                                                                                                          in length
                                                                                                                                                                                                                                         in length
                                                                                                                                                                                                                                                                       of 1969 bp in length
                                                                                                                                                                                                                                                                                                                                  in length
                                                                                                                                                                                                                                                                                                                                                                              bp in length
                                                                                                                                                                                                                                                                                                                                                                                             in length
                                                                                                                                                                                                                                                                                                                                                                                                                                         in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       in length
                                                                    in length
                                                                                                                                                       length
                                                                                                                                                                                    length
                                                                                                                                                                                                                  length
                                                                                                                                                                                                                                                                length
                                                                                                                                                                                                                                                                                             length
                                                                                                                                                                                                                                                                                                                                                                                                     unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                length
                                                                            length
                                                                                                          length
                                                                                                                                                                      length
                                                                                                                                                                                                   length
                                                                                                                                                                                                                                                 length
                                                                                                                                                                                                                                                                                                                           unknown length
                                                                                                                                                                                                                                                                                                                                                         length
                                                                                                                                                                                                                                                                                                                                                                       length
                                                                                                                                                                                                                                                                                                                                                                                      length
                                                                                                                                                                                                                                                                                                                                                                                                                                   length
                                                                                                                                                                                                                                                                                                                                                                                                                                                 length
                               Length
                                             length
                                                             length
                                                                                                                         length
                                                                                                                                                                                                                                  length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               length
                                                                                                                                                                                                                                                                                                           unknown len
of 2915 bp
                                                                                                                                                                                                                                         of 1548 bp
                                                                                                                                                                                                                                                                                                                                  of 2610 bp
                                                                                                                                                                                                                                                                                                                                                                                             of 1866 bp
                                                                                                                                                                                                                                                                                            unknown J
of 3065 h
                                                                                                                                                                                                                                                                                                                                                                       unknown l
of 1946 k
                                                                                                                                                                                                                                                                                                                                                                                                                                  unknown l
of 1105 h
                                                            unknown
of 3773
                                                                                                                 of 3257 unknown
                                                                                                                                                     unknown
of 2357 b
unknown
of 2413 b
                                                                                                                                                                                                   unknown
of 2605
                                                                                                                                                                                                                                                                              unknown
of 3327
                                                                                                                                                                                                                                                                                                                                                        unknown
of 1853
                                                                                                                                                                                                                                                                                                                                                                                                                                                 unknown
of 1656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          unknown
of 1916 Junknown
                                                                                                                                              2859
                                                                                                                                                                                                                         of 1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of 1080
                                                                            unknown
                                                                                                 of 2646
                                                                                                          unknown
                                                                                                                                                                                    unknown
                                                                                                                                                                                            of 3306
                                                                                                                                                                                                                  unknown
                                                                                                                                                                                                                                                                                                                                                                                      unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       of 1493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gap or contig or
                                                                                                                                                                                                                                                                                                                                                                             contig
gap of
                             gap of
contig
gap of
                                                                           gap of
contig
                                                                                         gap of
contig
gap of
                                                                                                                contig
gap of
contig
gap of
contig
gap of
                                                                                                                                                                                                  gap of contig gap of contig gap of contig
                                                                                                                                                                                                                                               gap of contig gap of contig gap of
                                                                                                                                                                                                                                                                                            gap of
contig
                                                                                                                                                                                                                                                                                                           gap of contig gap of contig gap of contig
                                                                                                                                                                                                                                                                                                                                                        gap of
contig
                                                                                                                                                                                                                                                                                                                                                                                             contig
gap of
contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gap of
contig
gap of
        contig
gap of
                                                    contig
                                                                                                                                                                             contig
                                                                                                                                                                                            contig
                                                                                                                                                                                                                                                                                                                                                                                                                                 gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                         contig
                                                                    contig
                                                                                                                                                                                                                                                                                       contig
                                                                                                                                                                                                                                                                                                                                                                                                                                           contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                 gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gap of
                                                            gap of
                                                                                                                                                                                    gap of
                                                                                                                                                                                                                                                                                                                                                                       gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gap of
                      84917:
85017:
88243:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             64680:
                                                                                                                                                                                                                                                                                                                                                                                                            52312
53688
53788
77970
78070
81735
81835
84918
85018
88244
88344
91661
91761
                                                                                 95634
98682
                                                                                                                                                                     113642
                                                                                                                                                                                                                                                                              30962
                                                                                                                                                                                                                                                                                                                                                                                                                                                 56643
56743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60092
61610
                                                                                                                101528
                                                                                                                                       08226
08326
                                                                                                                                                                                                                                                       26104
                                                                                                                                                                                                                                                                                                     34489
                                                                                                                                                                                                                                                                                                                                  69901
                                                                                                                                                                                                                                                                                                                                                        46247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        58499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            64581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          167075
167175
169091
                                                                                                                                04885
                                                                                                                                                       11185
                                                                                                                                                                                                          19661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 58399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                59992
                                                                                                                                                                                                   19561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   64681
```

```
ROD 27-APR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              house mouse.
Mus musculus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                          Db 112278 CAGAAGAATCTGAAGAAGCGGAAGTGGAAGCGGAAGCGGAAGCGGAAGCGGAAGCGG 112337
                                                                                                                                                                                                                                                                                                                                     1975 aagtgccagaagaagaattagaggcaactccagaggacgatttcgaattagaagaaccaa 2034
                                                                                                                                                                                                                                                                                                                                                                                                                                                          2155 aagaggtaccagaagaagtagaagaggtacccgcagaagtagaagtggaagaggtac 2214
                                                                                                                                                                                                                                   2215 cagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagagg 2274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mus musculus killer cell lectin-like receptor G1 (Klrg1) gene, complete cds.
AF317727.1 G1:13810895
                                                                                                                                                                                                             0; Gaps
                                                                                                                                                                                                                                                                                                                                                                    2035 caggagaagaagtagaagaaaccgtagagggcgaagaaactgcagaaggagaagtag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2335 aagtagaagtaccagcggtagtagaagaagaggtgccagaagaagtagaagaagaagaag
                                                                                                                                                                                                                                                                                                                                                                                                                2095 aagaggtacctgcagaagtagaagaagtggaagaggtacctgcagaagtagaagtgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2275 taccagaagaagtggaagaagtggaagaagtagaagtagaagtagaggtaccagcggtagtag
                                                                                                                                                                                       Length 199508;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2395 aagaggaagaaccagtagaagaagaagatgtattacaattagtaa 2439
  in length
                                           bp in length
                                                                 in length
                                                                                       in length
                                                                                                             in length
                                                                                                                                   bp in length
                                                                                                                                                        bp in length
                                 length
                                                                                                                                            length
                                                       length
                                                                             length
                                                                                                                         length
                                                                                                                                                        contig of 1079 bp in l
gap of unknown length
                                                                                                    length
                                                                                                                                                                                       Score 252.2; DB 2;
Pred. No. 2.5e-27;
0; Mismatches 208;
                                                                 ďq
                                                                                       đq
                                                                                                             ф
                                                                                                                        unknown
of 1039 l
unknown
                                                                of 1299
                                                                                      of 1065
                                  unknown
                                                       unknown
                                                                             unknown
                                                                                                   unknown
                                                                                                             of 2042
 contig
gap of
contig
gap of
contig
gap of
contig
gap of
                                                                                                                                  contig
gap of
                                                                                                                                                                                                   64.48;
                                                                                                                                                                                        7.68;
                                                                                                                                                                  181240:
                     172492:
                                                                 175515:
                                                                                                                                              180061:
                                                                                                                         178922:
                                                                                                                                                                                       Query Match 7.6
Best Local Similarity 64.4
Matches 377; Conservative
                                172493
172593
172593
174117
175516
175616
176681
176781
178823
178823
179962
180062
169191
170872
170972
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 24
AF317727/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δŏ
                                                                                                                                                                                                                                    δλ
                                                                                                                                                                                                                                                                                                                        δy
                                                                                                                                                                                                                                                                                                                                                                     δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
```

2374

```
Homo sapiens chromosome 7 clone RP11-198E23, complete sequence. AC009785
HZC09785.6 GI:14495397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Subb.K.L., Desmarats,C.L., Ramsey,S.A. and Hubley,R.M.
Subb.K.L., Desmarats,C.L., Ramsey,S.A. and Hubley,R.M.
Direct Submission
L. Submitted (01-SEP-1999) Human Genome Center, University of Washington, Box 352145, Seattle, WA 98195, USA
E. 3 (bases 1 to 179149)
E. 3 (bases 1 to 179149)
S. Kaul,R.K., Olson,M.V., Zhou,Y., James,R.A., Raymond,C., Clendenning,J., Ivey,R.G. and Haugen,E.D.
Direct Submission
L. Submitted (20-JUN-2001) Genome Center, University of Washington, Box 352145, Seattle, WA 98195, USA
On Jun 20, 2001 this sequence version replaced gi:9719771.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Overlapping Sequences:
5': RP11-341C17 (UWGC:djs301) AC011625, 73322-bp clone overlap
3': RP11-335B7 (UWGC:djs542) AC026239, 38206-bp clone overlap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                       agaggtaccagcggtagtagtagaagtagaagtaccagcggtagtagaagaagaggtgccaga
                                                                   accagaagaagtggaaggtaccagaagtggaagaagtggaagtggaagtagaagt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence Quality Assessment:
This entry has been annotated with sequence quality estimates computed by the Phrap assembly program.
All manually edited bases have been reduced to quality Quality levels above 40 are expected to have less than
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequencing vector: plasmid: X52328; 100% of reads Chemistry: Dye-terminator Big Dye; 100% of reads Assembly program: Phrap; version 0.990319 Consensus quality: 179865 bases at least Q40 Consensus quality: 180446 bases at least Q20 Insert size: 196175; 13.6% error; agarose-fp Insert size: 176064; sum-of-contigs Quality coverage: 10.0% in Q20 bases; sum-of-contigs Quality coverage: 10.0% in Q20 bases; sum-of-contigs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Kaul,R.K., Olson,M.V., Zhou,Y., James,R.A., Raymond,C.,
Clendenning,J., Ivey,R.G. and Haugen,E.D.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Center: University of Washington Genome Center
Center Code: UWGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10774 AGAAGAAGAAGAAGAAGAAGAAGAAGAAGAAGAAAAA 10733
                                                                                                                                                                                                                                         2375 agaagtagaagaagaagaagaagaagaagaaccagtagagga 2416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ..... Summary Statistics
  (bases 1 to 179149)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Unpublished
                                                                                                                                                                                                                                                                                                                                           RESULT 25
AC009785/c
                                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
JOURNAL
                                                                2255
                                                                                                                                                 2315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                       q
                                                                                                                                                                                       g
                                                                ò
                                                                                                                                                 õ
                                                                                                                                                                                                                                         õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /protein_id="AAA40082.1"
/protein_id="AAA40082.1"
/daxef="col:13810896"
/translation="AmbSsIvstledpeapoyodesrwklkavlhrphisrfamvalg
LLTVILMSLLAVQRILCGGSKDSTGSHCPSCPILWTRNGSHCYYFSMEKKDWNSSLKF
CABAGSHLLTPPDNGSYKLFGFRLGODFYWIGIRNIDGWRWEGGPALSLRILTNSLIQ
RCGAIHRNGLAAQMICKKVLY" 18 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (bases 1 to 13297)
Voehringer,D., Kaufmann,M. and Pircher,H.
Direct Submission
Submission
Submitted (31-OCT-2000) Immunology, Institute for Medical
Microbiology and Hygiene, Hermann-Herderstr. 11, Freiburg 79104,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mapping of
the mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                     /tissue_type="spleen"
join(<973. .1054,4040. .4144,5499. .5668,10141. .10238,
12303. .>12414)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2015 tttcgaattagaagaaccaacaggagaagaagtagaagaaaccgtagagggcgaagaac 2074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1895 agaggaaggagaattagtattagaaggagagagagccaacggaagaagaagccaagaga 1954
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1955 aggagagccaacagaaggagaagtgccagaagaagaattagaggcaactccagaggacga 2014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       tgcagaaggagaagaagtggaagaggtacctgcagaagtagaagaagtggaagaggtacc 2134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2135 tgcagaagtagaagaagtggaagaggtaccagaagaagtagaagaggtacccgcagaagt 2194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2195 agaagaagtggaagaagtaccagaagaagtggaagaggtaccagaagagatggaagaggt 2254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1835 ggaagaattgatgcaactccaagaggacgatttcgaattagaaggaactgcagaagctcc 1894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    jóin(973. <sup>.</sup>1054,4040. .4144,5499. .5668,10141. .10238,
12303. .12414)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 10; Length 13297;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /product="killer cell lectin-like receptor G1
                                                            physical (KLRG1),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      J2283. .>12414)
/gene="Klrg1"
/product="killer cell lectin-like receptor G1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                 1 (bases 1 to 13297)
Voehthiger,D., Kaufman,M. and Pircher,H.
Official termative splicing, and the killer cell lectin-like receptor Gl gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               7.6%; Score 252; DB 10; 164.4%; Pred. No. 3e-27; 1ve 0; Mismatches 207;
                                                                                                                           Immunogenetics 52 (3-4), 206-211 (2001)
                                                                                                                                                                                                                                                                                                                                                             /organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                 /strain="129/SvevTACfBr"/db_xref="taxon:10090"
                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
1. .13297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="MAFA/KLRG1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /codon_start=]
                                                                                                                                                                                                                                                                                                                                                                                                                              /sex="female"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           <973. .>12414
/gene="Klrg1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /gene="Klrg1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity 64.4 es 375; Conservative
                                                                                                       homologue of MAFA
                                                                                                                                                                     11220622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3447
                                                                                                                                                                                                                                                                                                   Germany
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Loca
Matches
                 REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                           AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BASE COUNT
                                                                                                                           JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gene
                                                                                                                                                                     PUBMED
                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CDS
                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
```

zero.

sum-of-contigs

error in 10,000 bp. ase-by-base quality values are not generally visible from the enbank flat file format but are available as part	file.
1 error in 10,000 bp. Base-by-base quality values are not generally visib GenBank flat file format but are available as part	of this entry's ASN.1 file.

This sequence was finished as follows unless otherwise noted: all regions were either double-stranded or sequenced with an alternate chemistry or covered by high quality data (i.e., Phred quality >= 30); an attempt was made to resolve all sequencing problems, such as compressions and repeats; all regions were covered by at least one plasmid subclone or more than one M13 subclone; and the assembly was confirmed by restriction digest.

This sequence has been validated by Multiple Complete Digest fingerprinting. Comparison of the experimentally derived digest fragments with sequence-predicted fragments is given below. The electronically-digested sequence consists of both insert and vector, in order to accurately represent the entire circular BAC. Small fragments below a variable cutoff (approximately 400-800 bp) are not resolved in the fingerprint and hence do not appear in the table. There are no significant remaining discrepancies

between the fragments	the experimental	and by da	icted va lines.	values. Unique	y discrepancies Uniquely ordered	
ECORI	RI	HindII	III	Bgl	II	
edbe	rPr	eqDerMa	ngrPrn	eqDerM	FngrPrn	
1		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1		
869	8850	39	<800	23	2280	
,	<800	638	6347	20	2069	
190	1895	51	<800	551	5637	
1854	1895	4	<800	69	7002	
284	2922	232	2276	202	2069	
372	3806	595	5995	237	2425	
	<800	:	7291	80	2069	
26	26593	1005	1033		<800	
	<800	102	1033	19	4187	
:	1483	34	3448	83	3773	
	1096	213	2126	164	1646	
	2045		2276	62	<800	
¦ .	13827		6652	19	1918	
,	6816	:	6347	1	18041	
188	1895		6652	. 0	3165	
604	6029	† †	1916	290	2928	
2150	2209	6376	6347	11	<800	
1394	13827	539	5641	ı	2425	
427	4287	59	<800	376	3773	
205	2209	40	4127	150	1485	
	2209		<800	36	3773	
	0		0	1 1 1		

5637

5635

20079

20065

6393

6448

7002	11807	821	2069	3312	3773	<800	<800	2928	10621	11807	9461	1646	3773	. 008>	9817	3165	1011	1283	<800	821	<800	1011	1485	20918									
6894	11819	837	:	, , ,	( (F)	! ! !	202	95	107	: ::	9445	1694						131	94	79	11	102	149.							1			
6903	5641	4127	7901	1033	1546	954	<800	1916	6347	. 008>	3877	4127	3877	4127	1546	3192	4943	8931	954	7901	<800	5408	1916	<800	5641	735	1248		7 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	indiary		region"	rion"
6964	5766	4281	784	10	159	95	330	1927	626	445	386	4	382	400	156	318	49	910	929	784		539	190	11	559	75	126	lifiers omo sapiens" xon:9606"	"7" -198E23" 	5423629)	723487324) ne="sWSS3670"	064 e subclone reg	130498130537 /note="Single subclone region"
9943	7645	<800	1483	1096	18612	7645	1700	1483	7645	<800	18612	<800	<800															Location/Qualifiers 1179149 //organism="Homo sapiens //db xref="taxon:9606"	/chromosome="7" /clone="RP11-198E23" /clone="RP11-198E23"	complement(3)	omplement(8' 'standard_na	.15832116	.30498130 'note="Singl
9916	7673	11	149	10,	1834	761	H	14	761		1908	11																			. 0 \		misc_feature 1
																				-								FEATURES Source		STS	STS	misc_	misc_

```
6
                                                                                                                 gaattagatgccactccagaggatg--gatttcgcattagacgaaactgcagaaggagaa 1233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1234 acagaagaaacgtagagggagaagaaacagaagctgcagaaggaggagtatcagaag 1293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gaggatgacttcgcattagatgttacagaatctcccgaggaagtagaattagtattagat 1115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            aaactccagaaggagaagaagagttagaggcaactccagaggatgatttcgcattagatg 1353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      aaaccgtagagagagaagaaaccgtagagggagagaagctgcagaaggagaagaagagt 1473
                                               gaagacgatgaggaagtcaacgaaacgttagatggaggtgaatcattaggagagagtttcc 458
                                                                                                                                                                                                                                                                                 caggggaagaaactggagatgcggaaactgaagaaggagca-actggagatgcggaaact 755
                                                                                                                                                                                                                                                                                                                               gaaaatggagcaactgtgtatgtagacacagaagatagttcagctgatggagcagaaaaa 815
                                                                                                                                                                                                                                                                                                                                                                            gtacatgttcctgctcaagaaaatgtacaacctgccgatagtaatgatgccctctttgga 875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        caaattgtggcgggtactgctaaacatgttacgggacaagaattgccaatgaaacctgta 995
                                                                                                                                         cctggtgatatggaaggaagaagaagctgg-cgatatggaagcaggggaagagctgg
                                                                                                                                                                                                                                                                                                                                                                                                                          agtattttggataaagatataatttttgatcatattaaagatttcgagccactattcgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gaagaggcaactgaagaagaatcaacggaagtgggaccaacggaagaaggaccaaccgaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gaactacattagaagaaaccgaagaaactgcagaaggagagaagaagcgtagagggagaag
                                                                                           actgaagatatggaaacagaagatggctcaacagatgatacggaaacagaagaagacta
                                                                                                                                                                                     tgatttggaagcaggggaagcagcggcgatttggaagcaggggaagaaactggcgattt
                                                                                                                                                                                                                                    ggaagcagg-ggaagaagctggtgatttggaagcaggggaagaaactggcgatttggaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 179149;
                        Indels
Match 7.4%; Score 247.2; DB 9; Local Similarity 47.9%; Pred. No. 1.3e-26; es 987; Conservative 0; Mismatches 1063;
Query Match
Best Local S:
Matches 987
                                              399
                                                                                                                                                                                                                                                                                                                                                                           816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1294
                                                                                                                                                              116439
                                                                                                                                                                                                                                 638
                                                                                                                                                                                                                                                       116319
                                                                                                                                                                                                                                                                                                                             756
                                                                                                                                                                                                                                                                                                                                                    116199
                                                                                                                                                                                                                                                                                                                                                                                                  116139
                                                                                                                                                                                                                                                                                                                                                                                                                                                116079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           115959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       115839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   115779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  115719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                115660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1414
                                                                                                                 116499
                                                                                                                                                                                     578
                                                                                                                                                                                                                                                                                                       116259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              115600
                                                                                                                                                                                                                                                                                 697
                                                                                                                음
                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                                                                음
                                                                                                                                                                                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      q
                                                                                                                                                            g
                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                          ò
                                                                                                                                        ò
                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ç
```

```
115123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            114883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2192
                                                                                                                                                                                                    aaggaagaaggaagggaaggaaggaaggagagagcgttagtagca-gtgccagtagtggcc 1592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1773 ccatcaaaggaagcactgtacaagtaccagtggcagtagggcccgcgcaagaagtgcca | 1773 ccatcaaaggaagcaccgcaagaagtgcca | 1774 | 1774 | 1775 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 1777 | 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1833 acggaagaattgatgcaactccaagaggacgatttcgaattagaaggaactgcagaagct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gatgaaactttattcgttgatatcttagataacgatttaacgtatgcagacattacatcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         115122 GGAGGAGTAGGAGGAGGAGGCAGAGAAGAAGAAGAGGAGGATAAGGAGGATAAGGAGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gaaggagagccaacagaaggagaagtgccagaagaagaattagaggcaactccagaggac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2013 gatttcgaattagaagaaccaacaggagaagaagtagaagaaaccgtagagggcgaagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gtagaggtaccagcggtagtagaagtagaagtaccagcggtagtagaag-aagaggtgcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                agaagaagtagaagaagaagaagaagaagaagaaccagtagaagaagaagatgtattaca
                                                                                                                                                                                                                                                          gaaccggtagaagtagtgactcctgctcagcctgtcaaaccaatggtcgctccaacggca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1713 tttgagccattatttaaacaaatcctcaaggatcctgatgcaggagggctgtaacagta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2133 cctgcagaagtagaagtagaagtggaagaggtaccagaagaagtagaagaggtaccgcagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ccagaggaaggagattagtattagaaggagaaggagaaccaacggaagaagccaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 114524 AGGAGGAGGAGGAGGAGA 114503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2432 attagtaataccatcggaagaa 2453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2313
                                                                                    1474
                                                                                                                                           115482
                                                                                                                                                                                                 1534
                                                                                                                                                                                                                                                                                                                       1593
                                                                                                                                                                                                                                                                                                                                                                          115362
                                                                                                                                                                                                                                                                                                                                                                                                                                    1653
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2372
                              g
                                                                                                                                                                                                                                                    q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                    οy
                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                              ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δý
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
```

26

RESULT

```
Wurny, D. M., Adams, C., Adio-Oduola, B., Ali-osman, F. R., Allen, C., Alabbrooks, S. L., Amaratunge, H. C., Are, J. R., Banks, T., Barbaria, J. Babrooks, S. L., Amaratunge, H. C., Are, J. R., Banks, T., Barbaria, J. Babrooks, S. L., Amaratunge, H. C., Are, J. R., Banks, T., Barbaria, J. Banton, J. Bimage, K., Blankenburg, K., Bonnin, D., Bouck, J., Burnet, C., Charcon, J., Charcon, T. F., Carreon, T. F., Carreon, T. F., Chare, J. Chare, J. Chare, C., Chen, R., Chen, Z., Chowdhry, I., Christopoulos, C., Cleveland, C. D., Carron, T. Cox, C., Chon, A. Dinh, H. H., Douthwalte, K. J., Deper, H. Cox, C., Davila, M. L., Davis, C., Davila, M. L., Davis, C., Davila, M. L., Davis, C., Cox, C., Davylan, Coch, S., Durbin, K. J., Barnhart, C., Edgar, D., Edvards, C. Cox, C., Elhaj, C., Escottc, M., Falls, T., Perraguco, D., Flagg, N., Ford, J., Garza, N., Glil, R., Gorrell, J. H., Guevara, W., Gunzatuce, P., Harris, C., Harris, K., Hart, M., Havlak, P., Hawes, A., Harnandez, J., Harris, C., Harris, K., Hart, M., Havlak, P., Hawes, A., Harnandez, J., Harrisco, Harris, K., Hart, M., Havlak, P., Hawes, A., Joakson, E., Jackson, E., Yadobson, B., Jia, Y., Chnson, R., Jolivet, S., Hume, J., Joakson, L. E., Jacobson, B., Jia, Y., Chonson, R., Johnson, R., Johnson, R., Johnson, R., Johnson, R., Martindale, M., Massey, R., Martin, R., Martindale, M., Massey, R., Martin, R., Martindale, M., Massey, M., Moster, M., Motterson, B., Nackerson, B., Stone, H., Sutton, A., Scherer, S., Scott, G., Shon, H., Stone, H., Sutton, A., Savery, G., Scherer, S., Parin, R., Paner, S., Narde, 
       ACUSEUV94 157158 bp DNA linear HTG 20-DEC-2001
Rattus norvegicus clone CH230-11K6, *** SEQUENCING IN PROGRESS ***,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Direct Submission
Submitted (23-OCT-2001) Human Genome Sequencing Center, Department
of Molecular and Human Genetics, Baylor College of Medicine, One
                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Baylor Plaza, Houston, Tx 77030, USA
On Dec 20, 2001 this sequence version replaced gi:17062340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Assembly program: Phrap; version 0.990329First call
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Consensus quality: 129931 bases at least Q40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Web site: http://www.hgsc.bcm.tmc.edu/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Center: Baylor College of Medicine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Center project Information
Center project name: GGGL
Center clone name: CH230-11K6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Contact: hgsc-help@bcm.tmc.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ---- Genome Center
                                                                                                                                                                         AC098094.4 GI:17968682
HTG; HTGS_PHASE1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2 (bases 1 to 157158)
Worley, K.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Center code: BCM
                                                                                                                                                                                                                                                                                Rattus norvegicus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               findPhrapList
                                                                                                                                                                                                                                            Norway rat.
                                                                                                                                                                                                                                                                                                                                                                                      Rattus.
                                          LOCUS
AC098094/c
                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
                                                                                                                                         ACCESSION
                                                                                                                                                                      VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMMENT
```

```
NOTE: Estimated insert size may differ from sequence length (see http://www.hgsc.bcm.tmc.edu/docs/Genbank_draft_data.html). NOTE: This is a 'working draft' sequence. It currently consists of 68 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
Consensus quality: 136277 bases at least 030
Consensus quality: 140929 bases at least 020
Estimated insert size: 120247; sum-of-contigs estimation
Quality coverage: 0x in 020 bases; agarose fp estimation
Quality coverage: 2.3x in 020 bases; sum-of-contigs estimation
                                                                                                                                                                                                                    bp in length
                                                                                                                                                                                                                                                          bp in length
                                                                                                                                                                                                                                                                                                                   bp in length
                                                                                                                                                                                                                                                                                                                                      in length
                                                                                                                                                                                                                                                                                                                                                                           in length
                                                                                                                                                                                                                                                                                                                                                                                              in length
                                                                                                                                                                                                                                                                                                                                                                                                                 length
                                                                                                                                                                                                                                                                                                                                                                                                                                     in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                      in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           in length
                                                                                                                                                                                                                                       bp in length
                                                                                                                                                                                                                                                                                                                                                                  length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       length
                                                                                                                                                                                                                                                 ength.
                                                                                                                                                                                                                                                                   ength
                                                                                                                                                                                                                                                                                                                                               ength
                                                                                                                                                                                                                                                                                                                                                                                                        ength
                                                                                                                                                                                                                                                                                                                                                                                                                           ength
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ength
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 length
                                                                                                                                                                     length
                                                                                                                                                                                        length
                                                                                                                                                                                                           length
                                                                                                                                                                                                                              length
                                                                                                                                                                                                                                                                                       ength
                                                                                                                                                                                                                                                                                                          length
                                                                                                                                                                                                                                                                                                                              length
                                                                                                                                                                                                                                                                                                                                                                                      length
                                                                                                                                                                                                                                                                                                                                                                                                                                              length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           length
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ф
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ďq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ďq
                                                                                                                                                                                                                                                                                                                                                                                                                                             unknown
of 2870
                                                                                                                                                                                                                                      4269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       unknown
of 2027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           of 3300
                                                                                                                                                                                                 of 3052
                                                                                                                                                                                                           unknown
                                                                                                                                                                                                                    of 4616
                                                                                                                                                                                                                                                 unknown
                                                                                                                                                                                                                                                          3975
                                                                                                                                                                                                                                                                    unknown
                                                                                                                                                                                                                                                                                                         unknown
                                                                                                                                                                                                                                                                                                                   of 2924
                                                                                                                                                                                                                                                                                                                                                                            2890
                                                                                                                                                                                                                                                                                                                                                                                              of 3132
                                                                                                                                                                                                                                                                                                                                                                                                                 3222
                                                                                                                                                                                                                                                                                                                                                                                                                           unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                     2612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 of 3203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of 1410
                                                                                                                                                                                                                              unknown
                                                                                                                                                                                                                                                                                                                                               unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    unknown
                                                                                                                                                           ot
                                                                                                                                                         contig
gap of
contig
gap of
contig
gap of
contig
gap of
                                                                                                                                                                                                                                                          contig
gap of
                                                                                                                                                                                                                                                                           contig
gap of
contig
gap of
                                                                                                                                                                                                                                                                                                                   contig
gap of
                                                                                                                                                                                                                                                                                                                                    contig
gap of
contig
gap of
contig
gap of
contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                             gap of
contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                gap of contig gap of contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gap of
contig
                                                                                                                                                                                                                                                                                                                                                                                                                                     contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               qap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              contig
                                                                                                                                                                              11219:
11319:
                                                                                                                                                                    5365:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       93301:
                                                                                                                                                                                                 14371:
                                                                                                                                                                                                                                                                                                                                                                                                                                                        61840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61940
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           65240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 83631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     86848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   88458
                                                                                                                                                                                                                    19087
                                                                                                                                                                                                                              19187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                80629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             65341
67381
67481
70684
70784
73009
73109
75332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             78397
80630
80730
83632
83732
86849
86949
                                                                                                                                                                                                                   114472
119088
123457
223557
224535
27632
27632
31188
36141
336141
336141
336165
342957
442957
446615
446615
52837
552837
561539
561539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           88459
90496
90596
93202
93302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                61841
61941
65241
                                                                                                                                                                                                           14372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    78297
```

bp in length

```
Direct Submission

Lountied (23-DEC-2000) Sanger Centre, Hinxton, Cambridgeshire, CBIO 15A, UK. E-mail enquirtes: hunquery@sanger.ac.uk Clone requests: clonerequest@sanger.ac.uk

On Dec 24, 2000 this sequence version replaced g1:11875910.

During sequence assembly data is comparaded from overlapping clones. Where differences are found these are annotated as variations together with a note of the overlapping clone name. Note that the variation annotation may not be found in the sequence submission corresponding to the overlapping clone, as we submit sequences with only a small overlap as described above.

This sequence has been finished according to sequence map criteria as follows. An attempt is made to resolve all sequencing problems, such as compressions and repeats, but not necessarily within known annotated repeat sequence elements. Where the sequence is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AL365272 132449 bp DNA 11near PRI 23-DEC-2000
Human DNA sequence from clone RPI1-328C17 on chromosome 6, complete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1. (bases 1 to 132449)
Heath, P.
gtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                            gaagaagaattagaagcaactccagaagaacgatttcgaattagaagaaccaacaggagaa
                                                                                                                                                                                             2103 cctgcagaagtagaagaagtggaagaggtacctgcagaagtagaagaagtggaagaggta
                                                                                                                                                                                                                                                                                                                                     ccagaaqaaqtagaaqatacccgcagaagtagaagaagtggaagaggtaccagaagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gaagtggaagaagtggaagtagaagtagaagtagaggtaccagcggtagtagaagtagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gtaccagcggtagtagaagaagaggtgccagaagaagtagaagaagaagaagaagaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gaaccagtagaagaagatgtattacaattagtaataccatcggaagaagatatacaa
                                                     gaaggaagaaccaacggaagaagaagccaagaagaagagagagccaaccagaaggagaagtgcca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AL365272.20 GI:11991402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sednence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            94653 GAAG 94650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2463 ttag 2466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                 1923
                                                                                                                     1983
                                                                                                                                                                                                                                                                                                                                                                                                           2223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
AUTHORS
TITLE
JOURNAL
              95252
                                                                                                                                                                                             2043
                                                                                                                                                                                                                                                                                                                                     2163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 2
AL365272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMMENT
              g
                                                                                  g
                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                 ò
                                                                                                                     ô
                                                                                                                                                                                           ò
                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                         QΫ́
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ï
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    95312 CTGGCAGTAGTTCATCAGAGGATGTTTCTAAGAAGAAGAAGAAGAAGAAGAAGATGATACCAA 95253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1683 aacgatttaacgtatgcagacattacatcctttgagccattatttaaaccaaatcctcaag 1742
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gatcctgatgcaggagaggctgtaacagtaccatcaaaggaagcacctgtacaagtacca 1802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gtggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaactccaagaggac 1862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 157158;
                length
                                                                                                                                                                                                                            length
                                                                                                                                                                                                                                                                                                  in length
                                                                                                                                                                                                                                                                                                                                     in length
                                                                                                                                                                                                                                                                                                                                                                      in length
                                                                                                                                                                                                                                                                                                                                                                                                         in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                            in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ength
                                                                                                     Length
                                                                                                                                       ength
                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       length
                                 ength
                                                                   ength
                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                                    ength
                                                                                                                                                                                                                                                                                                                                                       ength
                                                                                                                                                                                                                                                                                                                                                                                        ength
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ength
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ength
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ength
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ength
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ength
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       i,n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 244.8; DB 2;
Pred. No. 3e-26;
0; Mismatches 367;
                                                                                  of 1651
unknown
                                                                                                                                                                                                                        2055
                                                                                                                                                                                                                                                                                                  of 1010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of 1130
                                                                   unknown
                                                                                                                     2073
                                                                                                                                                                       unknown
                                                                                                                                                                                                                                              unknown
                                                                                                                                                                                                                                                                                                                    unknown
                                                                                                                                                                                                                                                                                                                                   1548
                                                                                                                                                                                                                                                                                                                                                                      1084
                                                                                                                                                                                                                                                                                                                                                                                        unknown
                                                                                                                                                                                                                                                                                                                                                                                                         of 1562
                                                                                                                                                                                                                                                                                                                                                                                                                                            2034
                                                                                                                                                                                                                                                                                                                                                                                                                                                                unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    of 1037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       of 1723
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of 1694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   unknown
                                                                                                                                                          1607
                                                                                                                                                                                                                                                                                                                                                       unknown
                                                                                                                                                                                                                                                                                                                                                                                                                           unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 unknown
            contig
gap of
contig
gap of
gap of
contig
gap of
contig
gap of
contig
gap of
                                                                                                                                                                                                                                           gap of contig gap of contig
                                                                                                                                                                                                                                                                                                                                 contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                     contig
gap of
gap of
contig
contig
gap of
contig
c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gap of
contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 contig
gap of
contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gap of
contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      contig
gap of
                                                                                                                                                                                                                                                                                                                                                                    contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              contig
gap of
                                                                                                                                                                                                                                                                                                                  gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity 53.1%;
16; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        140095:
140195:
                                                                99842
                                                                                  101493
                                                                                                                     103666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  36457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      138865
                                                                                                                                                                                                                                                                                                                                                                                      114027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      24872
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 34091
                                                                                                                                                                                                                                                                                                                                                                  112844
113928
114028
115590
111724
1117824
1117824
119554
1122042
                                                                                                                                                                                                                                                                                              110086
111096
111196
                                                              99743
99843
                                                                                                                                                                                     105474
106496
106596
108651
108751
109986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     124873
126596
126696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      128648
128748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 136458
136558
                                                                                                 101494
101594
103667
103767
105374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          131026
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              135167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   123636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              32198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             132298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               133992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     138866
138966
140096
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           130926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                34092
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     37695
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Sim
hes 416;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1863
```

g

oy og 9 9 9

```
repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             repeat_region
                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                              misc_feature
                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
ambiguous, there is an annotation using the 'unsure' feature key. The following abbreviations are used to associate primary accession numbers given in the feature table with their source databases:

Bm:, EMBL; Sw:, SWISSPROT; Tr:, TREMBL; Wp:, WORMPEP; Information on the WORMPEP database can be found at http://www.sanger.ac.uk/Projects/c_elegans/wormpep This sequence was generated from part of bacterial clone contigs of human chromosome 6, constructed by the Sanger Centre Chromosome 6 Mapping Group. Further information can be found at http://www.sanger.ac.uk/HGP/Chr6 of Pieter de Jong. For further details see http://www.chori.org/bacpac/home.htm

WETOR: PBACB: SWICH of SANGER CANDERS C
                                                                                                                                                                                                                                                                                                                                                                                                                                                    IMPORTANT: This sequence is not the entire insert of clone RP11-1328C17 It may be shorter because we sequence overlapping sections only once, except for a 100 base overlap.

The true right end of clone RP11-1328C17 is at 133449 in this sequence. The true left end of clone RP11-133K4 is at 64893 in this sequence. The true right end of clone RP11-133K4 is at 61893 in this this sequence. The true right end of clone RP1-125A24 is at 61243 in this sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8526. .8915
/note="LiMB4 repeat: matches 5725. .6124 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8178. .8224
/note="LIMB4 repeat: matches 6124. .6169 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /clone_lib="RPCI-11.2"
1. .1562
/note="LLM4 repeat: matches 4133. .5719 of consensus"
.1563. .1641
/note="MLTIA2 repeat: matches 1. .80 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7.000. .2474
/note="Alusx repeat: matches 38 .312 of consensus"
2475. .4179
/note="LiM4 repeat: matches 1686. .3396 of consensus"
4306. .4589
/note="LiM4 repeat: matches 1254. .1544 of consensus"
complement (4704. .5324)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8064. .8169
/note="LiM4 repeat: matches 3479. .3593 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1669. .2199
/note="LIM4 repeat: matches 3396. .3937 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5142. 5435

Anote-"MITID repeat: matches 170. .428 of consensus"

5436. 5744

/note-"AluSx repeat: matches 1. .310 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .924 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .420 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8225. .8525
/note="Alusx repeat: matches 1. .301 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4799. 4938
//note="11M4c repeat: matches 785. .9
/note="match: 685: Em.AQ774852"
/note="match: 685: Em.AQ774852"
/note="match: 685: Em.AQ787689"
4943. .5094
/note="LlM4c repeat: matches 272. .4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     complement(5020. .5329)
/note="match: GSS: Em:AQ494601"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          'clone-"RP11-328C17"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        complement (5020.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /chromosome="6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1. .132449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
```

```
July 1990.

July 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Anote="MLT1B repeat: matches 101. .309 of consensus" 11448. .11756
Anote="AluY repeat: matches 1. .309 of consensus" 12109. .12515
Anote="L2 repeat: matches 1747. .2155 of consensus" 12798. .12947
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 23596. .23601

7.00ce="Weak data."

25664. .25783

7.00ce="L2 repeat: matches 2588. .2741 of consensus"

25786. .26131

26858. .27183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note="12 repeat: matches 2579. .2709 of consensus"
20271. .20430
/note="MER20 repeat: matches 55. .218 of consensus"
21095. .21389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           // Anote="12 repeat: matches 2242. .2710 of consensus" 22768. .22848 // Anote="12 repeat: matches 2661. .2750 of consensus" 23314. .24204 // Anote="CpG island" // Arote="cpG is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="AluSx repeat: matches 1, .295 of consensus"
21830, .21946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    consensus,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .296 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /noce="MER81 repeat: matches 2. .94 of consensus"
1735. 1768
/note="match: GSS: Em:AQ104665"
/note="AluSx repeat: matches 1. .296 of consensus"
1795. 18362
/note="match: GSS: Em:AQ151578"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note="MIR repeat: matches 42, .152 of consensus" 22328, .22772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .206 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .221 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       27208. .27334
/note="MIR repeat: matches 81. .221 of consensus" 27673. .27833
/note="MIR repeat: matches 7. .175 of consensus" complement(28112. .28516)
/note="match: GSS: Em:AQ212338"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9524. .9697
/note="MER53 repeat: matches 1. .189 of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .301 of
/note="match: GSS: Em:AQ355497"
9029. 9150
/note="2 copies 61 mer 95% conserved"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10046. 10143
/note="2 copies 49 mer 91% conserved"
11168. 11361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               'note="AluJb repeat: matches 1.
                                                                                                                                                                                                                                                           /note="match: GSS: Em:AQ175845"
9388, .9675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9487. .9840
/note="match: GSS: Em:AQ717684"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9491. .9932
/note="match: GSS: Em:AQ147759"
                                                                                                                                                                                                                                                                                                                                                                    9388. .9675
/note="match: GSS: Em:AQ135206"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="MIR repeat: matches 29. 12975. .13026
```

```
AC018348 178022 bp DNA linear HTG 24-JAN-2001
Homo sapiens chromosome 15 clone RP11-483E23, WORKING DRAFT
SEQUENCE, 9 unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 178022)
102978 GAGTAGCAGTTGCAGTAGCTGTGGCAGGAGTAGCAGCAGCAGTTGCAGTAGCTG 103037
                                                                                                                                                                                                                                               103152 TGGCAGGAGGAGTAGCAGCAGCAGCAGTTGCAGTAGCTGTGGCAGGAGGAGTAGCAGCAT 103211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          103452. CAGGAGGAGTAGCAGCATCAGCAGTTGCAGTAGCTGTGGCAGGAGGAGTAGCAGCATCAG 103511
                                                                                                 103038 TGGCAGGAGGAGTAGCAGCAGCAGCAGTTGCCGTAGCTGTGGCAG-----GAGGATTAG 103091
                                                                                                                                                                               103092 CAGCATCAGCAGTTGCAGTAGCTGTGGCAGGAGTAGCAGCATCAGTAGTTGCAGTAGCTG 103151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           103332 TTGCAGTAGCTGTGGCAGGAGGAGTAGCAGCTGTGCAGTAGCTGTGGCAGGAGGAGGAGTAG 103391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   103632 CAGCAGCTGTGGCAGGAGGAGTAGCAGCATCGGCAGTTGCAGCAGCTGTGGCAGGAGGAG 103691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       103392 cagcadirecaaraecrereceaeaagaagraecaecarcaecagraecaerrecaeraecreree 103451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  103572 GAGTAGCAGCATCGGCAGTTGCAGCAGCTGTGGCAGGAGGAGTAGCAGCATCGGCAGTTG 103631
                                                                                                                                         agccattatttaaaacaaatcctcaaggatcctgatgcaggagaggctgtaacagtaccat 1776
                                                                                                                                                                                                                                                                                                                                                                                    1897 aggaaggagaattagtattagaaggagaaggagaaccaacggaagaagagccaagagag 1956
                                                           aaactttattcgttgatatcttagataacgatttaacgtatgcagacattacatcctttg 1716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2197 aagaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaagaggtac 2256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  103692 TACCAGCACTGCGCAGTAGCTAGCTAGCAGCAGCAGCAGCAGCAGTGCAGTAG 1037
                                                                                                                                                                                                                                                                                                                                                                                                                          103272 CAGGAGTAGCAGCATCAGTAGTTGCAGTAGCTGTGGCAGGAGGAGTAGCAGCAGCAGCAG 1033
                                                                                                                                                                                                                                                                                                                                            103212 CAGCAGTTGCAGTAGCTGTGGCAGGAGGAGTAGCAGCATCAGCAGTTGCAGTAGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gagagccaacagaaggagaagtgccagaagaagaattagaggcaactccagaggacgatt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGTICCAGCAGCIGIGGCAGGAGIAGCAGCATCGGCAGIIGCAGCAGCIGIGGCAGGAG
                                                                                                                                                                                                                        1777 caaaggaagcacctgtacaagtaccagtggcagtagggcccgcgcaagaagtgccaacgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cagaagaagtggaagaggtaccagaagaagtggaagaagtggaagaagtag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           aggtaccagcggtagtagaagtagaagtaccagcgggtagtagtagaagaagaggtgccagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   tcgaattagaagaaccaacaggagaagaagtagaagaaaccgtagaggggaagaactg
                                                                                                                                                                                                                                                                                                      1837 aagaattgatgcaactccaagaggacgatttcgaattagaaggaactgcagaagctccag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cagaaaggagaagaagtggaaggtacctgcagaagtagaagaagagtggaagaggtacctg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cagaaagtagaaagtggaagaggtaccagaaagaagtagaagaaggtacccgcagaagtag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AC018348
AC018348.11 GI:12408462
HTG; HTGS_PHASEI; HTGS_FULLTOP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Db 103812 CAGTTGCAGTGCAGGA 103827
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          taataccatcggaaga 2452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 28
AC018348/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy 2437
                                                                                                                                         1717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        103512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                       δ
                                                                                                                                                                               원
                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                      QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                qq .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                    οy
                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                           ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ë,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DD 102384 CAGTAGCAGCGCAGTAATAGTAGTAGTAGCAGCAGTAGCAGTAGCTGTGGCAGGAG 102443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Db 102444 GAGTAGCAGCAGCAGTTGCCGTAGCTGTGGCAGGAGTAGCAGCAGCAGCAGCAGTTG 102503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             102504 CCGTAGCTGTGGCAGGAGGAGCAGCAGCAGTTGCCGTAGCTGTGGCAGAGGAG 102563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       102564 TAGCAGCAGCAGTTGCCG-TAGCTGTGGCAGGAGGAGTAGCAGCAGCAGCAGCAGCAGTTGCA 102622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Db 102918 TTGCAGTAGCTGTGGCAGGAGGAGTAGCAGCATCAGCAGTTGCAGTAGCTGTGGCAGGAG 102977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      102678 TACCAGCATCAGCAGTTGCAGTAGCTGGCAGGAGTAGCAGCATCAGCAGTTGCAG 102737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1057 aggatgacttcgcattagatgttacagaatctcccgaggaagtagaattagtattagatg 1116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1117 aagaggcaactgaagaagaatcaacggaagtgggaccaacggaagaaggaccaaccgaag 1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gaagaaacgtagaggagaagaacagaacagaagctgcagaaggagaagtatcagaagaaa 1296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ctacattagaagaaaccgaagaaactgcagaaggagaagaaaccgtagaggagaagaaa 1416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gagaaggagaagggaaggaaggaaggaagcgttagtagcagtgccagtagtggccgaac 1596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1597 cggtagaagtagtgactcctgctcagcctgtcaaaccaatggtcgctccaacggcagatg 1656
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    997 cattaccagtggcagaagagcccgcgcaagtaccagcggaagaattagatgccactccag 1056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="MER5A repeat: matches 121. .189 of consensus"
35369. .35435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Oy 1297 ctccagaaggagaagaagagttagaggcaactccagaggatgatttcgcattagatggaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Db 102738 TAGCTGTGGCAGGAGGAGTAGCAGCATCAGCAGTTGCAGTAGCTGTGGCAGGAGTAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  102858 caggagragcagcagcagcagragcagragcagcaggaggaggagcagcagcag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1177 aattagatgccactccagaggatgatttcgcattagacgaaactgcagaaggagaaaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ccgtagagggagaagaaaccgtagagggagaagaagctgcagaaggagaagaagttag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              aggcaactccagaggatgacttccaattagaagaaccatcaggagaaggaggaag
                                                           consensus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    7.3%; Score 242; DB 9; Length 132449;
llarity 49.4%; Pred. No. 7.5e-26;
Conservative 0; Mismatches 725; Indels 12;
                                                           of
                                                         .210
                                                       /note="MIR repeat: matches 79.
28588. .28828
                   Em: B51862
                /note="match: GSS:
28560. .28684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity
Matches 719; Conserv
                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                            repeat_region
                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                                                 repeat_region
misc_feature
                                                                            misc_feature
                                                                                                                    misc_feature
                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ouery Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
```

```
δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
Abola, A.P., Bruno, D., Conn, L., Dela Rosa, M., Faulkner, D., Federspiel, N., Glukhov, S., Hansen, N., Herman, Z.S., Hyman, R., Mao, J., Lam, B., Marathe, R., Miranda, M., Morehouse, A.J., Nguyen, M., Oefner, P., Palin, C.J., Ramirez, D., Southwick, A.M., Wilhelmy, J., Yu, S., and Davis, R.W.
                                                                                                                                Chases I to 178022)
Bruno, D., Conn.L., Dela Rosa, M., Federspiel, N., Foreman, P.,
Glukhov, S., Hansen, N., Hyman, R., Mao, J., Marathe, R.,
Morehouse, A.J., Oefner, P., Palm, C.J., Ramirez, D., Wilhelmy, J.,
Yu, S. and Davis, R.W.
Direct Submission
Submitted (09-DEC-1999) DNA Sequencing and Technology Center,
Stanford University, 855 California Avenue, Palo Alto, CA 94304,
                                                                                                                                                                                                                                                                                                                                                                     Center: Stanford DNA Sequencing and Technology Development
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Web site: http://sequence-www.stanford.edu/group/human/
Contact: hum-info@sequence.stanford.edu
                                                                                                                                                                                                                                                                                                                                           On Jan 24, 2001 this sequence version replaced gi:12043889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Quality coverage: 8.3x in Q20 bases; agarose-fp Quality coverage: 8.3x in Q20 bases; sum-of-contigs. NOTE: This is a 'working draft' sequence. It currently consists of 9 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequencing Vector: M13mp18; X02513
Chemistry: Dye-primer; 11% of reads
Chemistry: Dye-primer; 11% of reads
Chemistry: Dye-terminator Big Dye; 89% of reads
Assembly program: Phrap; version 0,990319
Consensus quality: 172592 bases at least Q40
Consensus quality: 174564 bases at least Q30
Consensus quality: 175289 bases at least Q20
Insert size: 187151; agarose-fp
Insert size: 187151; sum-of-contigs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          contig of 10465 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of 23648 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                of 19639 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        unknown length
of 19005 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       contig of 2877 bp in length
gap of unknown length
contig of 6304 bp in length
gap of unknown length
contig of 5704 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         of 36028 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /clone_lib="RPCI human BAC library 11"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gap of unknown length contig of 53552 bp in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="assembly_name:Contig19'
2978. .9281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Center clone name: RP11-483E23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ----- Summary Statistics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1. 178022
/organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Center project name: 732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /clone="RP11-483E23"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gap of
contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /chromosome="15
                                                                                                                                                                                                                                                                                                                                                              ---- Genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             88242:
88342:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2877:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   178022:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        69237:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                124470:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9281:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            25650:
                                                                                                             Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9382
15086
15186
25651
25751
49399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    88243
                                                                                                                                                                                                                                                                                                                                                                                                               Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  source
                                                                                                                                       REFERENCE
AUTHORS
                                                                                                                                                                                                                                                  TITLE
JOURNAL
  AUTHORS
                                                                                                                JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                           COMMENT
```

/note="assembly\_name:Contig20"

```
Db 149970 GCGGAGGCAGGAGGAGGATGATGTGGGAGAAGGAGGAAGATGCGGAGGCAGGAGGAGT 149911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Db 149791 GGCAGGAGCAGGAGGCGAAGATGTGGAGGCAGGAGAGAAAGATACGGGAGCAGGAAGAGA 149732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Db 149731 AGATACGGGAGCAGGAGAAAAAGATGTGGAGGCAGGAGGAGGAGATTCACGAGCAGGAGA 149672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Db 149611 TAAGGGAGCAGGAGGAGATATGGAGGCAAAAGGAGAAGATGCACGAGCAGGAGGAGAAGA 149552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Db 149491 AGATACGGGAGCAGGAGGAGAAGGTGTGGAGGCAGGAGGAGAAGATACGGGAGCAGCAGGAGG 149432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Db 149371 AGAAGATGCATGAGCAGGAGAAGATATGGGAGGAGGAGAAGAGGCGAGGAGCAGGAGGATA 149312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     149910 GATGTGGGAGAAGAGGAGGAGATACGGGAGCTGGAAGAGAGATGCACGAGCAGGAGA 149851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1412 agaaaaccgtagaaggagaagaaaccgtagagggagaagaagctgcagaaggagaagaaga 1471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1116 gaagaggcaactgaagaagtcaacggaagtgggaccaacggaaggaccaaccgaa 1175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1176 gaattagatgccactccagaggatggatttcgcattagacgaaactgcagaaggagaaac 1235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1236 agaagaaac---gtagagggagaagaaaacagaaggaagctgcagaaggagaagtatcaga 1291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      agaaactccagaaagaagaagaagagttagaggcaactccagaggatgatttcgcattaga 1351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1056 gaggatgacttcgcattagatgttacagaatctcccqaggaagtagaattagtattagat 1115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tggaactacattagaagaaaccgaagaaactgcagaaggagaagaaaccgtagagggaga 1411
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1472 gttagaggcaactccagaggatgacttccaattagaagaaccatcaggagagaaggagaagg 1531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1592 cgaaccggtagaagtagtgactcctgctcagcctgtcaaaccaatggtcgctccaacggc 1651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           agatgaaactttattcgttgatatcttagataacgatttaacgtatgcagacattacatc 1711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1712 ctttgagccattatttaaacaaaatcctcaaggatcctgatgcaggagagaggctgtaacagt 1771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1772 accatcaaaggaagcacctgtacaagtaccagtggcagtagggcccgcgcaagaagtgcc 1831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 178022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               803 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 242; DB 2; I
Pred. No. 7.4e-26;
0; Mismatches 675;
9382. .15085
/note="assembly_name:Contig21"
15186. .25650
                                                                                        /note="assembly_name:Contig22"
                                                                                                             25751. .49398
/note="assembly_name:Contig23"
                                                                                                                                                                                                                                                                                                                                                                                                            124471. .178022
/note="assembly_name:Contig27"
a 38471 c 37841 g 49044 t
                                                                                                                                                                                                                                                                                                                                                        88343. .124370
/note="assembly_name:Contig26"
                                                                                                                                                                                                                                       clone_end:SP6"
69238. .88242
/note="assembly_name:Contig25
                                                                                                                                                                       49499. .69137 --
/note="assembly_name:Contig24
                                                                                                                                                                                                                                                                                                                                   clone_end:T7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               7.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ๙
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            51863
   misc_feature
                                                                                                                   misc_feature
                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches 691;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BASE COUNT
```

g

. 요 à

ò

ò

g

ò

ò

ò qq à g ò

g

ç

```
Norman, C.H., O'Connor, T., O'Donnell, P., O'Nell, D., Oliver, J., Reterson, K., Phunkhang, P., Plerre, N., Pollara, V., Raymond, C., Retar, R., Riberder, R., Riber, P., Roman, J., Rosetti, M., Roy, A., Santos, R., Schuer, S., Schubback, R., Schamn, S., Severy, P., Sougnez, C., Spencer, B., Stange-Thomann, N., Talamas, J., Tesfaye, S., Theodore, J., Travers, M., Subramanian, A., Talamas, J., Tesfaye, S., Theodore, J., Travers, M., Travis, N., Viell, A., Talamas, J., Young, G., Zainoun, J., Zambek, L., Zimmer, A. and Zody, M. Direct Submission

N. Bubmitted (13-APR-2001) Whitehead Institute/MIT Center for Genome Submitted (13-APR-2001) Whitehead Institute/MIT Center for Genome Research, 320 Charles Street, Cambridge, MA 02141, USA On Sep 5, 2001 this sequence version replaced gi:15055314.

All repeats were identified using Repeatwasker:

Smit, A.F.A. & Green, P. (1996-1997)

http://ftp.genome.washington.edu/RM/Repeatwasker.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                71015 GCGGAGGCAGGAGGAGTGATGTGGGAGAAGGAGAGAAGATGCGGAGGCAGGAGAT 70956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                70955 GATGTGGGAGAAGGAGGAGAAGATACGGGAGCTGGAAGAGAAGATGCACGAGCAGGAGAA 70896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            70895 GATACGGGAGCAGGAAGAGAGAGAGGCAGG-AGGAGAGAGATACGCGAGCAGGAGAAGA 70837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GGCAGGAGCAGGAGGCGAAGATGTGGAGGCAGGAGGAGGAAGATACGGGAGCAGGAAGAGA 70777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            70776 AGATACGGGAGCAGGAGAAAAAGATGTGGAGGCAGGAGGAGAAGATTCACGAGCAGGAGA 70717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gaggatgacttcgcattagatgttacagaatctcccgaggaagtagaattagtattagat 1115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gaattagatgccactccagaggatggatttcgcattagacgaaactgcagaaggagaaac 1235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               agaagaaac---gtagaggagaagaagaacagaagactgcagaaggagaagtatcaga 1291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1292 agaaactccagaaggaagaagaagaagttagaggcaactccagaggatgatttcgcattaga 1351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NOTE: This is a 'working draft' sequence. It currently consists of 3 contigs. The true order of the pieces is not known and their order in this sequence record is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 242; DB 2; Length 179337;
Pred. No. 7.4e-26;
0; Mismatches 675; Indels 14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Center code: WIBR
Web site: http://www-seq.wi.mit.edu
Contact: sequence_submissions@genome.wi.mit.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /clone="RP11-483E23"
/clone_lib="RPCI-11 Human Male BAC"
38904 c 38383 g 51109 t 200 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 77133: contig of 77133 bp in length 77134 77233: gap of 100 bp 77234 143193: contig of 65960 bp in length 143194 143293: gap of 100 bp 143294 179337: contig of 36044 bp in length. Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ----- Project Information
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Homo sapiens"
/db_xref="taxon:9606"
/chromosome="15"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Center clone name: 483_E_23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Center project name:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       7.38;
50.18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches 691; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          50741
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1056
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                   COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AC091304 179337 bp DNA linear HTG 05-SEP-2001 Homo sapiens chromosome 15 clone RP11-483E23 map 15, *** SEQUENCING IN PROGRESS ***, 3 unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Diren, B. Linton, L., Nusbaum, C., Lander, E., Allen, N., Anderson, S., Barren, B., Linton, L., Nusbaum, C., Lander, E., Allen, N., Anderson, S., Barnen, N., Bastien, V., Boguslavkiy, L., Boukhgalter, B., Brown, A., Camarata, J., Campopiano, A., Chang, J., Choepel, Y., Colangello, M., Collins, S., Collymore, A., Cooke, P., DeArellano, K., Dewar, K., Diaz, J.S., Dodge, S., Faro, S., Ferreira, P., Fitzkulgh, W., Gage, D., Galagan, J., Gardyna, S., Ginde, S., Goyette, M., Graham, L., Grand-Pierre, N., Hagos, B., Heaford, A., Horton, L., Hulme, W.,
          149191 AGGAGAAGATAAGGGAGCAGGAGAGAAGACACGGGAGCAGGAGAAGATACGGGAGCAGG 149132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          148840 AGGAGAAGATGCGGAGGAGGAGGAGAAGATAAGGGAGCAGGAGAAGAAGATACGGGAGC 148781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       149020 TAAGGGAGCAGGAGGAGAAGATACGGGAGCAGAAGGAGAAGATACGGGAGCAGGAGGAGA 148961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Db 148960 AGATATGGGAGCAGGAGGAGAAGATACGAGGAGCAGGAGGATGATGCAGGAACAGGAAG 148901
                                                                                                                                                                                                                                                                                                                                                                                                             149076 ----GGAGCAGGAAGAAGATGCAAGAACAGGAGAAGATGCGGAGGAGGAGGAGGAAGA 149021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Illev,I., Johnson,R., Jones,C., Karatas,A., LaRocque,K.,
Lamazares,R., Landers,T., Lehoczky,J., Levine,R., Liu,G.,
MacLean,C., Macdonald,P., Marquis,N., Matthews,C., McCarthy,M.,
McEwan,P., McKernan,K., McPheeters,R., Meldrim,J., Meneus,L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mihova, T., Mlenga, V., Murphy, T., Naylor, J., Nguyen, C., Norbu, C.,
                                                                                                                                                                                                                                    1892 tccagaggaaggagaattagtattagaaggagaaggagaaccaacggaagaagaagccaag 1951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             aactgcagaaggagaagaagtggaagatacctgcagaagtagaagtggaagtggaagaggt 2131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2252 ggtaccagaagaagtggaagaggtaccagaagaagtggaagaagtggaagaagtagaagtagaaga 2311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               agtagaggtaccagcggtagtagaagtagaagtaccagcggtagtagaagaagaggtgcc 2371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cgatttcgaattagaagaaccaacaggagaaagaagtagaagaaaccgtagagggcgaaga
                                                                                                        aacggaagaattgatgcaactccaagaggacgatttcgaattagaaggaactgcagaagc
                                                                                                                                                                                                                                                                             1952 agaaggaggccaacagaaggagaagtgccagaagaagaattagaggcaactccagagga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          agtagaagaagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Db 148720 AGCAGGAGGGAAGATGTGTGAGCAGGAAGCGAAGATGCAAGAACAGGAGGAGAAGATGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HTG; HTGS_PHASE1; HTGS_FULLTOP; HTGS_ACTIVEFIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 (bases 1 to 179337)
Birren, B., Linton, L., Nusbaum, C. and Lander, E.
Homo sapiens chromosome 15, clone RP11-483E23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AC091304.6 GI:15431118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AC091304/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
```

```
70477
                                                                                                                                                                                                                                                                                                                                                                                                               70297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           98869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              70237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         70177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      70120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  70066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               70006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    90169
                                                                                          TAAGGGAGCAGGAGGAGATATGGAGGCAAAAGGAGAAGATGCACGAGCAGGAGGAGAAGA 70597
                                                                                                                                                         70417
                                                                                                                                                                                                                                                                                                                    1711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2071
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2311
                                                                                                                                                                                                                                                       1651
                                                                                                                                                                                                                                                                                                                                                                                                                                               1831
                                                                                                                             gttagaggcaactccagaggatgacttccaattagaagaaccatcaggagaaggagaagg 1531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ----GGAGCAGGAAGAAGAAGAAGAAGAAGAAGAAGATGCGGAGGAGGAGGAGGAGAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            tggaactacattagaagaaaccgaagaaactgcagaaggagagaaaccgtagagggaga
                             70716 AGATACGGGAGGAGGAGAAGAGGCAGGAGCAGGAGGAGATGTGGAGGCAGGAGGAAGA
                                                                agaaaccgtagagggaagaagaaccgtagagggaagaagaagctgcagaaggagaaga
                                                                                                                                                                                            ggaaggagaaggaggaaggaaggaaggaaggaagcagttagtagcagtgccagtagtggc
                                                                                                                                                                                                                      70536 AGATACGGGAGCAGGAGGAGAAGGTGTGGAGGAGGAGGAGAAGATACGGGAGCAGGAGG
                                                                                                                                                                                                                                                         cgaaccggtagaagtagtgactcctgctcagcctgtcaaaccaatggtcgctccaacggc
                                                                                                                                                                                                                                                                                     70476 AGAAGATGTGGAGGAGGAGAAGATACGGAGCAGGAGGAGATGTGGAGGAGGAAG
                                                                                                                                                                                                                                                                                                                      agatgaaactttattcgttgatatcttagataacgatttaacgtatgcagacattacatc
                                                                                                                                                                                                                                                                                                                                                  AGAAGATGCATGAGCAGGAGAAGATATGGGAGGAGGAGGAAGAGGCAGGAGGAGATA
                                                                                                                                                                                                                                                                                                                                                                                1712 ctttgagccattatttaaacaaatcctcaaggatcctgatgcaggagaggctgtaacagt
                                                                                                                                                                                                                                                                                                                                                                                                             70356 AGATGTGGAGGAGGAGGAGAAGATACGGGAGCAGGAGGAGAAGGTGTGGAGGCAGGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                accatcaaaggaagcacctgtacaagtaccagtggcagtagggcccgcgcaagaagtgcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            aacggaagaattgatgcaactccaagaggacgatttcgaattagaaggaactgcagaagc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGGAGAAGATAAGGGAGCAGGAGGAGAAGACACGGGAGCAGGAGATACGGGAGCAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tocagaggaaggaattagtattagaaggagaaggagaaccaacggaagaagagccaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     agaaaggaagaccaacagaaggagaagtgccagaagaagtaattagaggcaactccagagga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cgatttcgaattagaagaaccaacaggagaagaagtagaagaaaccgtagagggcgaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TAAGGGAGCAGGAGAGAAGATACGGGAGCAGAAGGAGAAGATACGGGAGCAGGAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                aactgcagaaggaagaagtggaagaggtacctgcagaagtagaagtggaagaggt
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGATATGGGAGCAGGAGGAGAAGATACGAGAGCAGGAGAGATGATGCAGGAACAGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             acctgcagaagtagaagtggaagagtaccagaagaagtagaaggtacccgcaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          agtagaagagtggaagaggtaccagaagaagtggaagaggtaccagaagaagtggaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGGAGAAGATGCGGAGGCAGGAGGAGGAGATAAGGGAGCAGGAGAAGAAGATACGGGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ggtaccagaagaagtggaagaggtaccagaagaagtggaagaagtggaagaagtagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         agtagaggtaccagcggtagtagaagtagaagtaccagcggtagtagaagaagaggtgcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        agaagaagtagaagaagaagaagaagaagaagaaccagtagaggaagaagatgtattaca
 1352
                                                             1412
                                                                                                                                                                                        1532
                                                                                                                                                                                                                                                                                                                   1652
                                                                                                                                                                                                                                                                                                                                                                                                                                             1772
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2072
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         69945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2372
                                                                                            70656
                                                                                                                                                                                                                                                       1592
                                                                                                                                                                                                                                                                                                                                                  70416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           70296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         70236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     70176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               70065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          70005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      69885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     69825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  70121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  69765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qγ
                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
ò
                                                             ò
                                                                                       g
                                                                                                                                                       g
                                                                                                                                                                                     ò
                                                                                                                                                                                                                 q
                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                          ŏ
```

```
09-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              USA
                                                                                                                                                                                                                                                                                                                                                                                                                      Louis,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Louis,
                                                                                                                                                          Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            63108,
                                                                                                                                                                                                                                                                                                                                                                                                Washington
irkway, St.
                                                  sedneuce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequencing Center, Washington 4444 Forest Park Parkway, St.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Submitted (09-JAN-2002) Department of Genetics, Washington University, 4444 Forest Park Avenue, St. Louis, Missouri 65 On Jan 37, 2002 this sequence version replaced gi:15799672.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Center: Washington University Genome Sequencing Center
                                                                                                                                                          Craniata; Vertebrata; Eutele
Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                  Sequencing Center, Washing
4444 Forest Park Parkway,
                                  PRI
                                  DNA linear
from 4, complete
                                                                                                                                                                                                                                                                                             Isak A., Kozlowicz, A. and Creason, K.
The sequence of Homo sapiens BAC clone RP11-757K22
Unpublished (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Center code: WGSC
Web site: http://genome.wustl.edu/gsc
Contact: sapiens@watson.wustl.edu
                                                                                                                                                      Eukaryota: Metazoa; Chordata; Craniata;
Mammalia; Eutheria; Primates; Catarrhini
1 (bases 1 to 206136)
Sulston,J.E. and Waterston,R.
Toward a complete human genome sequence
Genome Res. 8 (11), 1097-1108 (1998)
                         206136 bp
Homo sapiens BAC clone RP11-757K22
AC068037
                                                                                                                                                                                                                                                                                                                                                                                  Direct Submission
Submitted (27-APR-2000) Genome
University School of Medicine,
MO 63108, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Direct Submission
Submitted (03-JAN-2002) Genome
University School of Medicine,
                                                                                   AC068037.5 GI:18042511
                                                                                                                                                                                                                                                                            (bases 1 to 206136)
                                                                                                                                                                                                                                                                                                                                               3 (bases 1 to 206136)
Waterston, R.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                   MO 63108, USA
4 (bases 1 to 206136)
Waterston, R.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5 (bases 1 to 206136)
Waterston, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            USA
                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MO 63108,
                                                                                                                                                                                                                                                              99063792
                                                                                                                         human.
                                                                                                       HTG.
                                                  DEFINITION
                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                            JOURNAL
MEDLINE
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                  TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
JOURNAL
                                                                                                                                                                                                         AUTHORS
TITLE
                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
RESULT 3
AC068037
                                                                                     VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                     AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                       SOURCE
```

NOTICE: This sequence may not represent the entire insert of this clone. It may be shorter because we only sequence overlapping clone sections once, or longer because we provide a small overlap between neighboring data submissions.

Center project name: H\_NH0757K22

This sequence was finished as follows unless otherwise noted: all regions were double stranded, sequenced with an alternate chemistry, or covered by high quality data (i.e., phred quality >= 30); an attempt was made to resolve all sequencing problems, such as compressions and repeats; all regions were covered by sequence trom more than one subclone; and the assembly was confirmed by restriction digest.

MAPPING INFORMATION:
Mapping information for this clone was provided by Dr. John D.
McPherson, Department of Genetics, Washington University, St. Louis
MCP. For additional information about the map position of this
sequence, see http://genome.wustl.edu/gsc

SOURCE INFORMATION:

The RPCI-11 human BAC library was made from the blood of one male donor, as described by Oscegawa, K., Woon, P.Y., Zhao, B., Frengen, E., Tateno, M., Catanese, J.J., and de Jong, P.J. (1998) An improved approach for construction and deather artificial chromosome libraries. Genomics 51:1-8. The clone may be obtained either from

```
11937. .11958

/rpt_family="(CAAA)n"

11987. .12083

/rpt_family="MIR"

12098. .12137

/rpt_family="AT_rich"

1215. .12215

/note="match to EST AW812961 (NID:g7905998)"

/note="match to EST AW812961 (NID:g7905955)"

12129. .12215

/note="match to EST AW812961 (NID:g7905955)"

/note="match to EST AW812961 (NID:g7905955)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             7.00ce="match to EST BF359776 (NID:g11318848)"
13789. .13913
7.00ce="match to EST AW812962 (NID:g7905956)"
13789. .13834
7.00ce="match to EST AW813004 (NID:g7905998)"
13789. .13897
7.00ce="s.milar to Mus musculus EST BE449106 (NID:g9448683)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13789. 13913

// note="match to EST AW812961 (NID:97905955)"

13873. 13897

// note="match to EST BF359776 (NID:911318848)"

14096. 14199

// note="match to EST AW812962 (NID:97905956)"

// note="similar to Mus musculus EST BE449106 (NID:99448683)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1896 gaggaaggagtattagtattagaaggagagagagaaccaacggaagaagagccaagaga 1955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1956 ggagagccaacagaaggaagagtgccagaagaagaattagaggcaactccagaggacgat 2015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1836 gaagaattgatgcaactccaagagggacgatttcgaattagaaggaactgcagaagctcca 1895
                                                                                                                                                                                                                                                                                        14096. [14199
//Anchen match to EST AW812961 (NID:g7905955)"
44096. "14199
//Anote-"match to EST BF359776 (NID:g11318848)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          7.2%; Score 241.8; DB 9
62.8%; Pred. No. 7.9e-26;
tive 0; Mismatches 222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           14412. .14454

/rpt_family="AT_rich"

14677. .14691

/rpt_family="MIR"

14914. .14936

/rpt_family="AT_rich"

15435. .15792

/rpt_family="AT_rich"

15485. .15896
                  lī537. .11861
/rpt_family="Alu"
11897. .11956
                                                         rpt_family="Alu"
1937. .11050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ut52e10.y1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity
Matches 375; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                        repeat_region
                                                       repeat_region
                                                                                        repeat_region
                                                                                                                           repeat_region
                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                 repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8681...8711
/rpt_family="(CAAAAA)n"
8906...9029
/hote="similar to Mus musculus EST BE449106 (NID:g9448683)
ut52el0.y1"
8983...9016
                             (http://bacpac.med.buffalo.edu)
VECTOR: pBACG3.6

NBIGHBORING SEQUENCE INFORMATION:
The clone sequenced to the left is RP11-191J2; the clone sequenced to the right is RP11-702A23. Actual start of this clone is at base position 1 of RP11-757K22; actual end is at base position 206136 of RP11-757K22.
                                                                                                                                                                      Data from AC079927 was used to finish this clone, AC068037. An unresolved simple sequence repeat exists between 77565 and 78175. Location/Qualifiers

1. 206136
/organism="Homo sapiens"
/db_xref="taxon:9606"
/chromosome="4"
/map="4"
/map="4"
/clone="1"="RPI1-757K22"
/clone="ih="RPI1-757K22"
/clone="ih="RPI1-757K22"
/clone="ih="RPI1-757K22"
/clone="ih="RPI1-757K22"
Research Genetics, Inc. (http://www.resgen.com) or Pieter de Jong
and coworkers at the Roswell Park Cancer Institute
                                                                                                                                                                                                                                                                                                                                              /note="similar to Rattus norvegicus EST BF523786
(NID:911631753)"
1353. .1641
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8983. 9016

/note="match to EST AW813004 (NID:97905998)"

8991. 9029

/note="match to EST AW812962 (NID:97905956)"

8991. 9029

9282. 10151
                                                                                                                                                                                                                                                                                                                                                                                                                                                             /rpt_family="Alu"
7764 . 3891
/rpt_family="MER1_type"
8892 . 4153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10851 ...10932
/rpt_family="MER1_type"
10934 ...11087
/rpt_family="MER1_type"
11346 ...1114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /rpt_family="MER1_type"
10282. .10314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4154. .4223
/rpt_family="MER1_type"
5203. .5253
/rpt_family="AT_rich"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /rpt_family="MER1_type"
10851, .1092
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /rpt_family="MER2_type" 6475. 6975 /rpt_family="ERVL" 7081. 7224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /rpt_family="MER2_type"
7576. .7597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           rpt_family-"AT_rich"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /rpt_family="AT_rich"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10282, 10314
/rpt_family="(TA)n"
10723, 10833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /rpt_family="AT_rich"
3732. .5759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8400. .8711
/rpt_family="Alu"
                                                                                                                                                                                                                                                                                                                                                                                                                             /rpt_family="Alu"
1820. .2125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /rpt_family="L2"
10200. .10650
                                                                                                                                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               repeat_region
                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
```

ô

Length 206136;

```
2316 gaggtaccagoggtagtagaagtagaagtaccagoggtagtagaagaagaggtgccagaa 2375
                                              2196 gaagaagtggaagaagtaccagaagaagtggaagaggtaccagaagaagtggaagaggta 2255
                                                                                             QQ
                                                                                    qq
       q
                     QQ
                                     qq
                                                    Ωp
                                                                             ò
õ
                               δy
                                             οy
                                                              δχ
                                                                                             ò
               ò
```

Search completed: June 14, 2002, 17:02:22 Job time: 24633 sec

		. 87	30 0.9	383	12 A	<b>A</b> Z6
	GenCore version	19				BG6
	Copyright (c) 1993 - 2000 Compugen Ltd.	c 20				BM0
		c 21				BIZ
OM nucleic - nucleic sea	leic search, using sw model	77		1207		A28 RH1
						BE4
Run on:	June 14, 2002, 15:29:46 ; Search time 2486.21 Seconds	c 25	30 0.9		12 B	BH4
	(without alignments) 18115.662 Million cell undates/sec	27		108/		AQ/
						TA2
Title:	US-09-667-130-1	29				TA2
Pertect score:						CNS
sednence:	I gaaricceggraaagraacaactrataaaataaataattc 3337					SNO
Scortog table.	OT TO NITC	0 32		104	AM A	AW88
acot till capte.	001100-1001 001100-1001 001100-1001				,	1004
					^	0 0
Searched:	13736207 segs. 6748477542 residues			122	_	
	1250					BG9
Word size :	0	. c 38			٠,	AW07
						AW88
Total number of	Total number of hits satisfying chosen parameters: 27472414					AA79
						AW34
Minimum DB seq length: 0	ength: 00000000					BF8
Maximum DB sed 1	ength: 200000000	O (		149	10	BGG
Post-processing: Listing	Tieting first As summarios					1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
. 6.1.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.	CF 76111					ם פ
Database :	EST: *					
	1; em estba:*					4
	2: em_esthum:*					
	3: em_estin:*					
		RESILT				
		08				
		LOCUS	AZ569608			
	7: em_estro:*	DEFINITION	263PvD09	ΡV	MBN #30 Plasm	asm
		ACCESSION	AZ569608			
	9: gb_est1:*	VERSION	AZ569608.1		GI:13979872	~
	10: gb_est2:*	KEYWORDS	GSS.			
	11: gb_htc:*	SOURCE	malaria parasite	parasite	P. vivax	vax
		ORGANISM	Plasmodium vivax	um vivax		
			Eukaryota	Eukaryota; Alveolata; Api	ata; A	Api
	E E	REFERENCE	1 (bases	(bases 1 to 633)	3)	
	15: em_gss_pin:*	AUTHORS	Carlton,J	Carlton, J.MR. and Dame,	nd Dam	'ne,
		TITLE	The Plasm	The Plasmodium vivax and	vax an	26
Pred No.	pred. No. is the number of results predicted by chance to have a	COMMENT	Contact: Dame IB	Dame IB	07) 07	5
score grea	iter than or equal to the score of the result being printed,		Dept. of	Dept. of Pathobiology,	logy,	ပိ
and is der	and is derived by analysis of the total score distribution.		Universit	University of Florida	rida	

AZ559608 263PvD09 AZ852656 2M0155K15 AZ682647 ENTLISTR BF854267 MR2-EN009 BI865668 ft24c06.y BI708633 fs57c04.y AM101380 sd79b07.y AZ677174 ENTGK62FF BG618297 602645844 BG959271 CM2-CT078 BE146466 QV0-HT021 T05426 EST03315 Fe AW886018 RC1-OT007 AW019681 7754 MARC AU097484 AU097484 AIG50676 WD25G06.x BM169373 EST571896 Description SUMMARIES AZ569608 AZ862656 AZ66267 BER94267 BIR65668 BI708633 AW101380 AZ677174 BGC10297 BGC10297 AZ677174 AZ677174 AZ677174 AZ677174 AZ677174 AZ677174 AZ677174 AZ677174 AZ677774 Query Match Length Result No.

0000000000

 $\circ \circ \circ \circ \circ \circ$ 

A2656316 1M0531117 BG683139 602651625 BM034050 kh72c01.y BI284201 UI-R-CX05 AZ836143 2M0130N15 BH150657 EWRK51TF BE488177 3A/B00 Am BH431115 BOGZT39TR AQ752154 Hs.5571_B BM464445 AGENCOURT AL483252 T. brucei AL279271 Tetraodon AW883151 QV4 C-07006 AL641523 AL64153 BH500312 BOHHM14TR AW86090 QV0-CT038 BE974031 601660360 BG995888 MR4-HT127 AW071377 xa65f02 AW071377 xa65f02 AW071377 xa65f02 AW071377 xa65f02 AW071377 xa65f02 AW071377 xa65f02 AW35955 26822 MAR BF831412 CM1-HT087 BF831412 CM1-HT087 BF931412 CM1-HT087 BF931484 ILO-NT023	ALIGNMENTS  By The MBN #30 Plasmodium vivax genomic 3', DNA sequence. Brasite P. vivax.  In GI:13979872  Parasite P. vivax.  Itam vivax  I
AZ656316 BG68139 BG68139 BB034050 BB103401 AZ83143 BB115657 BB481177 BB4431115 AZ6752154 AM0552154 AM060390 BB504886134 AW08137 AA790025 AW345555 BG736026	PV MBN #30 Plasmodium vi).  1 GI:13979872  parasite P. vivax.  um vivax  *Alveolata; Apicomplexa, s; 1 to 633, 2 to 630, 2 to
1100 100 100 100 100 100 100 100 100 10	N #30 F 13979E te P. v ax eolata; eolata; eolata; formula f 198
383 396 586 586 627 683 1108 1108 1113 1113 1113 1113 1138 1138	Pro MBN #30 Pl 3.1 GI:1397987  parasite P. vi thum vivax 23. Alveolata; 23.1 to 633; 24.0.MR. and ba modium vivax a 21. to 633; 21. to 633; 23. to 6
000000000000000000000000000000000000000	A2569608 AZ569608 AZ569608.1 GI:1397987 GSS. GSS. GSS. The parasite P. vi Plasmodium vivax Eukaryota; Alveolata; The Plasmodium vivax a Parasitol. Today 16 (1) Contact: Dame JB Dept. of Pathobiology, University of Florida 2015 SW 23rd Avenue, B Tel: 352 392 4700 Fax: 352 392 9704 Email: damej@mail.vetm Seq primer: M13(-20) f Class: shotgun. Location/Qual Approach
00000000000000000000000000000000000000	A25 A25 A25 A25 A25 A25 A25 A25 A25 Cla
00 000 0000 00000000000000000000000000	RESULT 1 A2569608 LOCUS DEFINITION ACCESSION VERSION VERYWORDS SOURCE AUTHORS TITLE JOURNAL COMMENT SOURCE SOURCE AUTHORS FEATURES
·	

```
Whatman CF11 powder (1:2 ratio volume of blood to CF11), and finally centrifuged through a 50% Percoll density cushion. Purified DNA was digested with mung bean nuclease in the presence of 44% formamide at 500c as described (Vernick, K.D., Imberski, R.B., and McCutchan, T.F. 1988. Nucleic Acids Research 16:6883-6896). Digested DNA was blunt-ended using 74 DNA Polymerase and size fractionated over a Sepharose CL-2B column. Fractions in the size range 500bp-4kb were ligated into the Eco RV site of pBluescript SK(+), and E. Oij XL-10 Gold transformed with the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           237 bp DNA linear GSS 21-FEB-2001 2M0155K15R Mouse 10kb plasmid UUGCIM library Mus musculus genomic clone UUGCZM0155K15 R, DNA sequence.
                                                                                                                                                                                                                                                                                                 .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalla; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. 1 (bases 1 to 337)
Dunn, D., Aoyaqi, A., Barber, M., Beacorn, T., Duval, B., Hamil, C., Islam, H., Longarer, S., Mahmoud, M., Meenen, E., Pedersen, T., Reilly, M., Rose, M., Rose, R., Stokes, R., Tingey, A., von Niederhausern, A. Mouse whole genome scaffolding with paired end reads from 10kb
                                                                                                                                                                                                                                                                                                                                                                                                500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gaaacagaagaactacctggtgatatggaaggagaagaagaagctggcgatatggaa 560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ttaacagatttgccaattgaagacgatgaggaagtcaacgaaacgttagatggaggtgaa 440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tcattaggagagagtttccactgaagatatggaaacagaagatggctcaacagatgatacg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       621 gaagaaactggcgatttggaagcaggggaagaagctggtgatttggaagcaggggaagaa
                                                                                                                                                                                                                                                                                                 ;
                                                                                                                                                                                                                                                               Length 633;
                                                                                                                                                                                           1 others
                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                           12.7%; Score 423; DB 12;
100.0%; Pred. No. 1.6e-90;
tive 0; Mismatches 0;
                                                                                                                                                                                           146 t
                                                                                                                                                                                           196 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Contact: Robert B. Weiss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AZ852656.1 GI:13039991
                                                                                                                                                                                           84 c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Unpublished (2000)
                                                                                                                                                                                                                                                           Query Match 12.7
Best Local Similarity 100.
Matches 423; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              plasmid inserts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          house mouse.
                                                                                                                                                                                           206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACT 423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              681 act 683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                           BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AZ852656/c
                                                                                                                                                                                                                                                                                                                               261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QQ
                                                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                οχ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QΩ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
```

```
//docurse_E. Coll Strain Allo-Gold, '1-Teststant, F-
//note="Vector: PWD4Znv; Purified genomic DNA from M.
musculus C57BL/6J (male) was obtained from the Jackson
Laboratory Mouse DNA Resource
(http://www.jax.org/resources/documents/dnares/). The DNA
was hydrodynamically sheared by repeated passage through a
0.005 inch orlifice at constant velocity. The sheared DNA
was blunt end-repaired with T4 DNA polymerase and T4
polymucleotide kinase. Adaptor oligonucleotides were
ligated to the blunt ends in high malar excess. The
adaptored DNA was purified and size-selected for a 9.5 to
10.5 kb range using preparative agarose gel
electrophoresis. Vector DNA was prepared from a derivative
of pWD42 (gil4732114) gblaR129072. 1), a copy-number
inducible derivative of plasmid R1. The vector was ligated
with adaptors complementary to the insert adaptors and
purified. The sheared, adaptored mouse DNA was annealed to
adaptored vector DNA, and transformed into
chemically-competent E. coli XL10-Gold (Stratagene) cells
and selected for ampicillin resistance."
                                                    H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GSS 14-DEC-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AZ682647 11-DEC-200 B25 bp DNA linear GSS 14-DEC-200 ENTLI55TR Entamoeba histolytica Sheared DNA Entamoeba histolytica
                                                    Polymers Research Bldg., 20 S. 2030 E., SLC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  from Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /sex="Male"
/lab_host="E. Coli strain XL10-Gold, Tl-resistant,
                                                                                                                                                                                                                                                                                                                                                                                          /strain="c57BL/67"
/db_xref="taxon:10090"
/clone="lugCZM0155K15"
/clone=lib="Mouse 10kb plasmid UUGCIM library"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 12; Length 337;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Contact: Brendan J Loftus
Department of Eukaryotic Genomics
The Institute for Genomic Research
9712 Medical Center Dr., Rockville, MD 20850, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                     Unlver...
Rm. 308, Biomeu...
84112, USA
Tel: 801 585 5606
Fax: 801 585 7177
Email: ddunnégenetics.utah.edu
Insert Length: 10000 Std Error: 0.00
Plate: 0155 row: K column: 15
Seq primer: CACACAGGAAACACCTATCACC
Class: plasmid ends
High quality sequence stop: 337.
Location/Qualifiers
' 337."Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1533 gaaggaagaaggaaggaaggaaggaagaag 1566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Entamoebidae; Entamoeba.

1 (bases 1 to 825)
Loftus, D., Van Aken, S. and Fraser, C.
Determination of clone end sequences
HMI:IMSS sheared DNA library
Unpublished (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   306 GAAGGAGAAGGAGAAGGGAAAGGAGAAG 273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1.0%; Score 34; DB 100.0%; Pred. No. 63; Cive 0; Mismatches
University of Utah Genome Center
University of Utah
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AZ682647.1 GI:11819793
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Entamoeba histolytica.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 genomic, DNA sequence. AZ682647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best_Local Similarity
Matches 34; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GSS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AZ682647/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
```

```
/organism="Homo sapiens"
/db_xref="taxon:9606"
/clone_lib="En0091"
/dev_stage="Adult"
/note="Organ: lung_normal; Vector: pucl8; Site_l: Smal;
Site_2: Smal; A mini-library was made by cloning products
derived from ORESTES PCR (U.S. Letters Patent application
No. 196,716 - Ludwig Institute for Cancer Research)
profiles into the pUC 18 vector. Reverse transcription of
tissue mRNA and cDNA amplification were performed under
low stringency conditions."
56 a 46 c 45 g 32 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Actinoptergii; Meopterygii; Teleostei; Ostariophysi; Cypriniformes ; Cyprinidae; Danio. 1 (bases 1 to 229)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 (bases 1 to 229)
Clark, M. Johnson, Z.L., Lehrach, H., Lee, R., Li, F., Marra, M., Eddy
Clark, M., Johnson, Z.L., Lehrach, H., Beck, C., Wylle, T., Underwood
K., S., Hillier, L., Kucabb, T., Martin, J., Beck, C., Wylle, T., Underwood
K., Steptoe, M., Theising, B., Allen, M., Bowers, Y., Person, B.,
Swaller, T., Gibbons, M., Pape, D., Harvey, N., Schurk, R., Ritter, E.,
Kohn, S., Shin, T., Jackson, Y., Cardenas, M., McCann, R., Materston, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BI865668 229 bp mRNA linear EST 11-OCT-2001 ft24c06.yl Zebrafish neuronal Danio rerio cDNA clone 5082251 5',
(http://www.ludwig.org.br/scripts/gethtml2.pl?tl=MR2&t2=MR2-EN0091-
$21200-007-908&t3=2200-12-26&t4=1)
Seg primer: puc 18 forward
High quality sequence stop: 104.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Email: zbrafish@watson.wustl.edu
CDNA Library constructed by S. Lin DNA Sequencing by: Washington
University Genome Sequencing Center Clone distribution: the
I.M.A.GE. Consortium/LLNL, send email to: info@image.llnl.gov
Seq primer: T3 ET from Amersham.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /dev_stage="adult"
/lab_host="DH10B (phage-resistant)"
/note="Organ: brain; Vector: pBluescript (modified);
Site_1: DraIII(Y); Site_2: DRAIII(X); Library is cloned
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Washington University School of Medicine
4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108, USA
Tel: 314 286 1800
Fax: 314 286 1800
Email: zbrafish@watson.wustl.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 189;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1.0%; Score 32; DB 10; 1
100.0%; Pred. No. 3.3e+02;
iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Danio.rerio"
/db_xref="texon;7955"
/clone="5082251"
/clone_lib="Zebrafish neuronal"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                190 ttgaaaaaattttttttttttttttttt 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WashU Zebrafish EST Project 1998
Unpublished (1998)
Contact: Stephen L. Johnson
                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BI865668.1 GI:16058801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /sex="mixed"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mRNA sequence.
BI865668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  zebrafish.
Danio rerio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ದ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                                                                                            BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 5
BI865668/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VERSION
KEYWORDS
                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                    /GLONE_INDER THIS TRANS / Street = Taxon: 5759"
/Glone_Ilb="Entamoeba histolytica Sheared DNA"
/Glone_Ilb="Vector: PHOSI; Site_I: Bst I; Constructed at The Institute for Genomic Research (TIGR), Rockville, MD.
Genomic DNA isolated from broth cultures of E. histolytica using a method described by Clark and Diamond, L.S. (1993) Entamoeba histolytica: a method for isolate identification. Exp. Parasitol.
77:450.). The DNA was mechanically sheared to give a tight size distribution (~2 kD). The v + I method used for the library construction is described in detail in Smith, H.O. and Venter, J.C. (Making small insert libraries for whole genome shotgun sequencing projects. In Genome Sequencing: A Practical Approach, eds. M. Vaudin and B. Barell, Oxford University Press, 1999)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BFB54267 16-JAN-2001
MR2-EN0091-261200-007-909 EN0091 Homo sapiens cDNA, mRNA sequence.
BF854267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalla; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (basea i to 189) Dias to 180. Dias Neto, E., Garcia Correa, R., Verjovski-Almeida, S., Briones, M.R., Nagai, M.A., da Silva, W. Jr., Zago, M.A., Bordin, S., Costa, F.F., Goldman, G.H., Carvalho, A.F., Matsukuma, A., Bala, G.S., Simpson, D.H., Brunstein, A., deoliveira, P.S., Bucher, P., Jongeneel, C.V., O'Hare, M.J., Soares, F., Brentani, R.R., Reis, L.F., de Souza, S.J. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Fax: +55-11-2707001
mail: asimpsongludvig.org.br
This sequence was derived from the FAPESP/LICR Human Cancer Genome
Project. This entry can be seen in the following URL
                                                                              Clones are derived from the Entamoeba histolytica HM1: IMSS sheared
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Contact: Simpson A.J.G.
Laboratory of Cancer Genetics
Ludwig Institute for Cancer Research
Rua Prof. Antonio Prudente 109, 4 andar, 01509-010, Sao Paulo-SP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Shotgun sequencing of the human transcriptome with ORF expressed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 12; Length 825;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                            /organism="Entamoeba histolytica"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; Pred. No. 45; ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Class: shotgun
High quality sequence start: 15
High quality sequence stop: 178.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1.0%; Score 33;
                                                                                                                                                                                                                                                                                                                        /strain-"HM1: IMSS
                                                     bjloftus@tigr.org
                                                                                                          DNA library
Seq primer: M13-Reverse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BF854267.1 GI:12242011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tel: +55-11-2704922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 1.09
Best Local Similarity 100.(
Matches 33; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                  Ema11:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Brazil
                                                                                                                                                                                                                                                                         source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 4
BF854267/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LOCUS
```

g ò

Gaps

ö

us-09-667-130-1.rst

g ò

Page

```
1 (bases 1 to 250)
Clark, M. Johnson, S.L., Lehrach, H., Lee, R., Li, F., Marra, M., Eddy
Clark, M., Johnson, S.L., Lehrach, H., Beck, C., Wylie, T., Underwood
K., S., Hillier, L., Kucaba, T., Martin, J., Beck, C., Wylie, T., Underwood
K., Steptoe, M., Theising, B., Allen, M., Bowers, Y., Person, B.,
Swaller, T., Gibbons, M., Pape, D., Harvey, N., Schurk, R., Ritter, E.,
Kohn, S., Shin, T., Jackson, Y., Cardenas, M., McCann, R., Waterston, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Email: zbrafish@watson.wustl.edu
cDNA Library construction by: Joe Barnes and Steve Johnson. DNA
Sequencing by: Washington University Genome Sequencing Center Clone
distribution: Research Genetics web address:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5' aagcadtgt-aacaacgcag. Deoxy-UMP adaptors were added in third PCR (5 cycles) and the primers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes; Cyprinidae; Danio.
                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                 EST 19-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       First
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5.-caucaucaucauggccgctaatacgactcactataggg-3, and
5.-cuacucacuaaagcagtggtaacaacgcagagtac-3'. Ends were
treated with uracil DNA glycosylase and product with 3'
overhangs was annealed to complementary ends of pAMP1.
directionally between the DraIII(X) and DraIII(Y) sites and has been amplified. Library constructed by S. Lin. ^{1} 26 c 40 g 78 t
                                                                                                                                                                                                                                                                                                                                                                                                            BI708633 250 bp mRNA linear EST 19-SEP-2C f557c04.y1 Zebrafish SJD day 8 fin regeneration Danio rerio CDNA clone 5071855 5', mRNA sequence. BI708633
                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WashU Zebrafish EST Project 1998
Unpublished (1998)
Contact: Stephen L. Johnson
Washington University School of Medicine
4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108, USA
Tel: 314 286 1800
Fax: 314 286 1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="Vector: pAMP1; Site_1: EcoR1; Site_2: Not1; strand cDNA synthesis was primed using oligo-dT on magnetic beads with an additional primer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /clone="5071855"
/clone_lib="Zebrafish SJD day 8 fin regeneration"
/sex="male"
                                                                                                                                                                                                .;
0
                                                                                                                                                Length 229;
                                                                                                                                                                                                0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /tissue_type="fin, 8-day regeneration"
/lab_host="DH10B"
                                                                                                                                                Score 32; DB 10; 1
Pred. No. 2.7e+02;
                                                                                                                                                          100.0%; Preα. ν.
- γ. ο; Mismatches
                                                                                                                                                                                                                                        1. .250
/organism="Danio rerio"
/db_xref="taxon:7955"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    http://www.researchgenetics.com/
Seq primer: T3 FT from Amersham
High quality sequence stop: 218.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BI708633.1 GI:15684328
                                                                                                                                                1.0%;
                                                                                                                                             Query Match 1.0°
Best Local Similarity 100.
Matches 32; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Danio rerio
                                                  ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          zebrafish
                                                                                                                                                                                                                                                                                                                                                            RESULT 6
BI708633/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            source
                                                BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                 COCUS
```

```
/note="Vector: pBluescript II XR; Site_1: ECORI; Site_2: XhOI; The mRNA was isolated from entire roots of 2-month-old 'Milliams' plants that were greenhouse grown in 5-gallon pots. To suppress nodulation, Black Gold All-Purpose potting soil was supplemented with: 0.36g/L available phosphoric acid (P205), 20mg/L urea N. 0.16g/L S, 0.49mg/L B, 2.5mg/L Cu, 0.15g/L Fe, 13.53mg/L Mn, 0.26mg/L Mo, 14mg/L En, 20mg/L Ca, and the following nutrients in a slow-release form (Osmocote): 0.16g/L ammonia N, 0.185g/L nitrate N, 0.35g/L available phosphoric acid, and 0.35g/L soluble potash. No nodules were visible on the roots at harvest. Stratagene's cDNA Synthesis Kit (catalog #200401) was used to synthesize the CDNA. First-strand synthesis was performed with 5-methyl dCTP, hence the ligated cDNA is hemimethylated.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    soybean.
Glycine max
Glycine max
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnollophyta; eudicotyledons; core eudicots;
Rosidae; eurosids I; Fabales; Fabaceae; Papilionoideae; Phaseoleae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Shoemaker, R., Keim, P., Vodkin, L., Erpelding, J., Coryell, V., Khanna, A., Bolla, B., Marra, M., Hillier, L., Kucaba, T., Martin, J., Beck, C., Nwylie, T., Underwood, K., Steptco, M., Theising, B., Allen, M., Bowers, Y., Person, B., Swaller, T., Gibbons, M., Pape, D., Harvey, N., Schurk, R., Ritter, E., Kohn, S., Shin, T., Jackson, Y., Cardenas, M., McCann, R., Waterston, R. and Wilson, R.

Public Soybean EST Project
Unpublished (1999)
                                                                                                                                                                                                                                                       .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                              380 bp mRNA linear EST 30-NOV-20 380 bb mRNA linear EST 30-NOV-20 Gm-c1009-590 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Email: est@watson.wustl.edu
This clone is available through: ResGen, Invitrogen Corp. 2130
South Memorial Parkway Huntsville, AL 35801 For further informati
call: (800)-533-4363 or contact via email: ccu@resgen.com
Seq primer: -40RP from Gibco
Insert can be excised using EcoRI and NotI. Library constructed by Joe Barnes and Steve Johnson (Washington Indianality) "
                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Contact: Shoemaker R/Public Soybean EST Project
Public Soybean EST Project
Washington University School of Medicine
4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108, USA
Tel: 314 286 1810
Fax: 314 286 1810
                                                                                                                                                                                                                                                       ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Glycine max"
/db_xref="taxon:3847"
/clone="GENOME SYSTEMS CLONE ID: Gm-c1009-590"
                                                                                                                                                                                              Length 250;
                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                              1.0%; Score 32; DB 10; 1
100.0%; Pred. No. 2.5e+02;
                                                                                         ų
                                                                                                                                                                                                               100.0%; Preq. .v..
                                                                                                                                                                                                                                                                                                            193 aaaaaaatttttttttttttttttttttgtt 224
                                                                                                                                                                                                                                                                                                                                     High quality sequence stop: 366.
Location/Qualifiers
1. .380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /clone_lib="Gm-c1009"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /lab_host="XL10-Gold"
                                                                                         32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AW101380.1 GI:6072061
                                                             University).
                                                                                                                                                                                                                                                    32; Conservative
                                                                                                                                                                                                                             Best Local Similarity Matches 32; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AW101380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Glycine.
                                                                                         63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EST
                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            source
                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 7
AW101380/c
                                                                                       BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOURCE
                                                                                                                                                                                                                                                                                                            Ω
```

```
Stratagene's first-strand synthesis primer was used [GAGAGAGAGAGAGAGACAACTACTCCAG(T)-18]. After second-strand synthes is, the CDNA ends were 'polished' with clone Ptu DNA polymerase, ligated to EcoRI adapters, and phosphorylated. The XhoI site within the first-strand synthesis primer was restricted by digestion with XhoI all XhoI sites in the CDNA would be protected by their hemimethylated status. The CDNA constructs were size fractionated with a 400bp cutoff, using a Sizes pan column from pharmacia. The column eluent was then ligated into Stratagene's pBluescript II XR Predigested vector (pBluescript ISK(+) that had been digested with EcoRI and XhoI, and phosphorylated). Both the white and blue colonies appear to contain recombinant plasmids with CDNA inserts. This library was constructed by Dr. Paul Keim and Dr. Virginia Coryell."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /strain="HM1:IMS"
/db_xref="taxon:5759"
/db_xref="taxon:5759"
/db_xref="taxon:5759"
/clone_llb="Entamoeba histolytica Sheared DNA"
/clone_llb="Entamoeba histolytica Structed at The /note="Vector: pH0S1; Site_l: Bst I; Constructed at The Institute for Genomic Research (TIGR), Rockville, MD. Genomic DNA isolated from broth cultures of E. histolytica using a method described by Clark and Diamond, L.S. (1993) Entamoeba histolytica: a method for isolate identification. Exp. Parasitol. 77:450.). The DNA was mechanically sheared to give a tight size distribution (-2 kb). The v + i method used for the library construction is described in detail in Smith,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A2677174 905 bp DNA linear GSS 14-DEC-2000 ENTGK62TF Entamoeba histolytica Sheared DNA Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Unpublished (2000)
Contact: Brendan J Loftus
Contact: Brendan J Loftus
Department of Eukaryotic Genomics
Department of Eukaryotic Genomics
The Institute for Genomic Research
9712 Medical Center Dr., Rockville, MD 20850, USA
Tel: 301 838 0208
Fax: 301 838 3543
Email: bjloftus@tigr.org
Clones are derived from the Entamoeba histolytica HM1:IMSS sheared
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Entamoeba histolytica.
Entamoeba histolytica
Eukaryota; Entamoebidae; Entamoeba.
1 (bases 1 to 905)
Loftus; B., Van Aken,S. and Fraser,C.
Determination of clone end sequences from Entamoeba histolytica
HMI: MSS. sheared DNA library
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 380;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Entamoeba histolytica"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 9; Le
1.6e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 1.0%; Score 32; DB Best Local Similarity 100.0%; Pred. No. 1.6 Matches 32; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         High quality sequence start: 18
High quality sequence stop: 305.
Location/Qualiflers
1. 905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DNA library
Seg primer: M13-Forward
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A2677174.1 GI:11814320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       genomic, DNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Class: shotgun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A2677174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AZ677174
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
```

RESULT

g ò

```
602645844F1 NIH_MGC_76 Homo sapiens CDNA clone IMAGE:4767419 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .
0
                                                                                                                                                              ö
    (Making small insert libraries for
H.O. and Venter, J.C. (Making small insert libraries for whole genome shotgun sequencing projects. In Genome Sequencing: A Practical Approach, eds. M. Vaudin and B. Barell, Oxford University Press, 1999)."
                                                                                                                                                                                                                                                                                                                                                                                                                                  Chordata; Craniata; Vertebrata; Euteleostomi; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Contact: Robert Strausberg, Ph.D. Email: cgapbs-rémail.nih.gov
Tissue Procurement: CLONETECH Laboratories, Inc.
CDNA Library Preparation: CLONETECH Laboratories, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be found through the I.W.A.G.E. Consortium/LLNL at:
http://image.llnl.gov.h column: 12
High quality sequence stop: 737.
                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostor Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 774) NIH-MGC http://mgc.nci.nih.gov/. NIH-MGC http://mgc.nci.nih.gov/. National Institutes of Health, Mammalian Gene Collection (MGC) Unpublished (1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 774;
                                                                                                                              Score 32; DB 12; Length 905;
Pred. No. 70;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0.9%; Score 31; DB 10; 1
100.0%; Pred. No. 1.4e+02;
iive 0; Mismatches 0;
                                                                                                                    190 ttgaaaaaatttttttttttttttttttttt 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    196 aaaatttttttttttttttttttttttgttct 226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                     BG618297.1 GI:13669668
                                                                                                                                                              32; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity
                                                                                                                                               Best Local Similarity
                                                                 356
                                                                                                                                                                                                                                                                                                                                                      BG61829
                                                                                                                                                                                                                                                                                                                                                                                    EST.
human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                          RESULT 9
BG618297/c
                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Loca
                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM
                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AUTHORS
                                                                                                                                                                                                                                                                                                                                                                     VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                                                                                                                                                                                                        LOCUS
                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
```

9

BG959271/c DEFINITION

ACCESSION VERSION KEYWORDS SOURCE

ORGANISM

REFERENCE AUTHORS JOURNAL MEDLINE COMMENT

TITLE

```
1. .166
/organism="Homo sapiens"
/db_xref="taxon:9606"
/dlone_lib="HP0216"
/dev_stage="Adult"
/dev_stage="Adult"
/note="organ: head_neck; Vector: puc18; Site_1: SmaI;
Site_2: SmaI; A mini-library was made by cloning products
derived from ORESTES PCR (U.S. Letters Patent application
No. 196,116 - Ludwig Institute for Cancer Research)
profiles into the puc 18 vector. Reverse transcription of
tissue mRNA and cDNA amplification were performed under
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tel: +55-11-2704922
Fax: +55-11-2707001
Email: asimpson@ludwig.org.br
This sequence was derived from the FAPESP/LICR Human Cancer Genome Project. This entry can be seen in the following URL
(http://www.ludwig.org.br/scripts/gethtml2.pl?tl=&t2=QVO-HT0216-011
199-043-b06&t3=1999-11-01&t4=1)
Seq primer: puc 18 forward
                                                                           Dias Neto, E., Garcia Correa, R., Verjovski-Almeida, S., Briones, M.R., Nagal, M.A., da Silva, W. Jr., Zago, M.A., Bordin, S., Costa, F.F., Goldman, G.H., Carvalho, A.F., Matsukuma, A., Baia, G.S., Simpson, D.H., Brunstein, A., deliveira, P.S., Bucher, P., Jongeneel, C.V., O'Hare, M.J., Soares, F., Brentani, R.R., Reis, L.F., de Souza, S.J. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EST 30-JUN-1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          T05426 200 DANA linear EST 30-JUN-199 EST03315 Fetal brain, Stratagene (cat#936206) Homo sapiens CDNA clone HFBCW86 similar to EST containing Alu repeat, mRNA sequence.
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 166)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 208)
                                                                                                                                                                                                                                                                                                                                                                             Laboratory of Cancer Genetics
Ludwig Institute for Cancer Research
Rua Prof. Antonio Prudente 109, 4 andar, 01509-010, Sao Paulo-SP,
                                                                                                                                                                                                                                      Shoigun sequencing of the human transcriptome with ORF expressed sequence tags
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Adams, M.D., Kerlaváge, A.R., Fields, C. and Venter, J.C. 3,400 expressed sequence tags identify diversity of transcripts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ó
                                                                                                                                                                                                                                                                             Proc. Natl. Acad. Sci. U.S.A. 97 (7), 3491-3496 (2000)
20202663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 166;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 9; Le
1.1e+03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Preu. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          low stringency conditions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0.9%; Score 30;
100.0%; Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      194 aaaaaatttttttttttttttttttgt 223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               High quality sequence start: 14
High quality sequence stop: 85.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nature Genet. 4, 256-267 (1993)
93364420
Contact: Adams, MD
                                                                                                                                                                                                                                                                                                                                                         Contact: Simpson A.J.G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     T05426.1 GI:316578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity 100. Matches 30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 from human brain
                                                                                                                                                                                                                     Simpson, A.J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           T05426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Brazil
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sonrce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                             MEDLINE
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                        REFERENCE
                                                                                 AUTHORS
                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   T05426/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                    TITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        / Organism="Homo sapiens"
// Organism="Homo sapiens"
// Organism="Homo sapiens"
// Obserie="Laxon:9606"
// Clone_lib="CT078H"
// Gev_Stage="Adult"
// Gev_Stage="Adult"
// Orde="Organ: Colon; Vector: puc18; Site_1: SmaI; Site_2: SmaI; A mini-library was made by cloning products derived from ORESTES PCR (U.S. Letters Patent application No. 196
// Tibe _ Ludwig Institute for Cancer Research) profiles into the puc 18 vector. Reverse transcription of tissue mRNA and cDNA amplification were performed under low stringency conditions: "

78 a 29 c 23 g 14 t
                                                                                                                                                                                                                                                                                                                                1 (bases I to 14).
Dias Neto, E., Garcia Correa, R., Verjovski-Almeida, S., Briones, M.R., Nagai, M.A., da Silva, W. Jr., Zago, M.A., Bordin, S., Costa, F.F., Goldman, G.H., Carvalho, A.F., Matsukuma, A., Baia, G.S., Simpson, D.H., Brunstein, A., deOliveira, P.S., Bucher, P., Jongeneel, C.V., O'Hare, M.J., Soares, F., Brentani, R.R., Reis, L.F., de Souza, S.J. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BE146466 11099-043-b06 HT0216 Homo sapiens CDNA, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                 BG959271 190301-701-a01_1 CT0781 Homo sapiens cDNA, mRNA CM2-CT0781-190301-701-a01_1 CT0781 Homo sapiens cDNA, mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Email: asimpsonelludwig.org.br
This sequence was derived from the FAPESP/LICR Human Cancer Genome Project. This entry can be seen in the following URL (http://www.ludwig.org.br/scripts/gethtmi2.pl?tl=CM2st2=CM2-CT0781-190301-701-a01_lst3=2001-03-196.t4-1)
Seq primer: puc_18 forward
High quality sequence stop: 118.
                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Contact: Simpson A.J.G.
Laboratory of Cancer Genetics
Ludwig Institute for Cancer Research
Rua Prof. Antonio Prudente 109, 4 andar, 01509-010, Sao Paulo-SP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Shotgun sequencing of the human transcriptome with ORF expressed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Proc. Natl. Acad. Sci. U.S.A. 97 (7), 3491-3496 (2000)
20202663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0.9%; Score 30; DB 10; Length 144;
100.0%; Pred. No. 1.3e+03;
ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         192 gaaaaaatttttttttttttttttttt 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BG959271
BG959271.1 GI:14377442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BE146466
BE146466.1 GI:8609190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tel: +55-11-2704922
Fax: +55-11-2707001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sequence tags
                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
                                                                                                                                         sednence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         human.
                                                                                                                                                                                                                                                    human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Brazil
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EST.
```

FEATURES

Query Match

Best Loca Matches

δ

BASE COUNT ORIGIN

ORGANISM

KEYWORDS SOURCE

BE146466/c DEFINITION ACCESSION VERSION

RESULT LOCUS ö

```
Smal; A mini-library was made by cloning products derived from ORESTES PCR (U.S. Letters Patent application No. 196. 716 - Ludwig Institute for Cancer Research) profiles into the pUC 18 vector. Reverse transcription of tissue mRNA and cDNA amplification were performed under low
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Single pass sequencing. Bases called and alt_trimmed with phred v0.980904.e. Vector identified by cross_match with the -minscore 18 and -minmatch 12 options.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 (bases I to 304)
Smith, T.P.L., Fahrenkrug, S.C., Rohrer, G.A., Simmen, F.A., Rexroad
, C.E. and Keele, J.W.
Mapping of expressed sequence tags from a porcine early embryonic
cDNA library
Anim. Genet. 32 (2), 66-72 (2001)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="Vector: pBLUESCRIPT SK-; Site_1: EcoRI; Site_2:
XhoI; Library made from pool of embryos in spherical and
filamentous stages of development (7.5% and 92.5%,
respectively, of each stage) as described in Choi et al,
Endocrinology 137, 1457-67, 1996."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Šuš scrofa
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartlodactyla, Suina, Suidae, Sus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EST 24-MAR-2
                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                            ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                     Length 255;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 304;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    304 bp mRNA lines
7754 MARC PBE Sus scrofa cDNA 5', mRNA sequence.
AW619681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /db_xref="taxon:9823"
/clone_lib="MARC PBE"
/tissue_type="Day 12 whole embryos"
/lab_nost="XLOLR"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Contact: Smith TPL USDA, ARS, US Meat Animal Research Center USDA, ARS, US Meat Animal Research Center PO Box 166, Clay Center, NE 68933-0166, USA Tel: 402 762 4366 Fax: 402 762 4390 Email: smith@email.marc.usda.gov
                                                                                                                                                                                                                                                                      Score 30; DB 9; Le
Pred. No. 7.2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0.9%; Score 30; DB 9; L
100.0%; Pred. No. 6.1e+02;
Live 0; Mismatches 0;
                                                                                                                                                                                                                                                                               0.9%; scc.
100.0%; Pred. No. ...
0; Mismatches
                                                                                                                                                                                 66 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Seq primer: AATTAACCCTCACTAAAGGG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        aaaaaatttttttttttttttttttttgt 223
                                                                                                                                                                                                                                                                                                                                                                                                               192 gaaaaaaattttttttttttttttttt 221
                                                                                                                                                  stringency conditions.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /organism="Sus scrofa"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
1. .304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGAAACAGCTATGACCATG
                                                                                                                                                                              37 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FORWARD: GGAAACAGCTATGACCATC
BACKWARD: GTAAAACGACGCCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AW619681.1 GI:7325865
                                                                                                                                                                                                                                                                                               Ouery Match 0.9
Best Local Similarity 100.
Matches 30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ø
                                                                                                                                                                                 102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 14
AW619681/c
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BASE COUNT
ORIGIN
                                                                                                                                                                              BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE
CÓMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Tel: +55-11-2704922
Fax: +55-11-270001
Fax: Fax: +55-11-270001
Fax: Fax: +55-11-20001
Fax: +55-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Bukaryota: Metazoa: Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 255)

Dias Neto,E., Garcia Correa,R., Verjovski-Almeida,S., Briones,M.R., Nagai,M.A., da Silva,W. Jr., Zago,M.A., Bordin,S., Costa,F.F., Goldman,G.H., Carvalho,A.F., Matsukuma,A., Baia,G.S., Simpson,D.H., Brunstein,A., deoliveira,P.S., Bucher,P., Jongeneel,C.V., O'Hare,W.J., Soaces,F., Brentani,R.R., Reis,L.F., de Souza,S.J. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AM886018 255 bp mRNA linear EST 23-MAY-2000 RCI-0T0075-120400-011-h07 0T0075 Homo sapiens cDNA, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note="Organ: ovary; Vector: puc18; Site_1: SmaI; Site_2:
                                                                                                                                                                                                                                                                                                              /dlone="HFBGWBG".
/clone="HFBGWBG".
/clone=lib="Fetal brain, Stratagene (cat#936206)"
/note="Vector: LambdaZAP-II; 17-18 wk gestation, female;
oligo-dT + random primed cDNA synthesis; lambdaZAP-II
vector, 1.0kb average inser size."
a 37 c 53 g 44 t 3 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Shotgun sequencing of the human transcriptome with ORF expressed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Contact: Simpson A.J.G.
Laboratory of Cancer Genetics
Ludvig Institute for Cancer Research
Rua Prof. Antonio Prudente 109, 4 andar, 01509-010, Sao Paulo-SP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Proc. Natl. Acad. Sci. U.S.A. 97 (7), 3491-3496 (2000)
20202663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 10; L
8.8e+02;
The Institute for Genomic Research 932 Clopper Road, Gaithersburg, MD 20878 Tel: 3018699056 Exex: 3018699423 Email: mdadams@tigr.org Seq primer: M13-21
                                                                                                                                                                                                                                     /organism="Homo sapiens"
/db_xref="ATCC (inhost):82144"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       11arity 100.0%; Score 30; DB 11arity 100.0%; Pred. No. 8.8 Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Homo sapiens"
/db_xref="taxon:9606"
/clone_lib="0T0075"
/dev_stage="Adult"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       193 aaaaaaatttttttttttttttttttg 222
                                                                                                                                                                              Location/Qualifiers
1. .208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AW886018
AW886018.1 GI:8048030
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 30; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Simpson, A.J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 human
                                                                                                                                                                                                         source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 13
AW886018/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KEYWORDS
                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
```

ö

Gaps

```
112
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  source
                                                                                                           source
                                                                                                                                                                                                                                                                                                                                                                                        BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BM169373/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AI650676 362 bp mRNA linear EST 17-DEC-1999 wb25d06.xl NCI_CGAP_GC6 Homo sapiens cDNA clone IMAGE:2306699 3/ similar to contains element MER4 repetitive element ;, mRNA
                                  AU097484 AU097484 Rice shoot Oryza sativa cDNA clone S5277, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ó
                                                                                                                                                           Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
Ehrhartoideae; Oryzeae; Oryza.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 362)

NCI-GGAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anatomy Project (CGAP), Tumor, Gene Index.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unpublished (1997)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Christopher A. Moskaluk, M.D., Ph.D., Michael
R. Emmert-Buck, M.D., Ph.D.
CDNA Library Preparation: M. Bento Soares, Ph.D., M. Fatima
Bonaldo, Ph.D.
                                                                                                                                                                                                                                                                                  Contact: Takuji Sasaki
National Institute of Agrobiological Resources
Rice Genome Research Program, Kannondai 2-1-2, Tsukuba, Ibaraki
305-8602, Japan
                                                                                                                                                                                                                                                                                                                                                                           Bmail: tsasaki@abr.affrc.go.jp, URL.http://rgp.dna.affrc.go.jp/
PROJECT ='RGP'.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /strain="Nipponbare, sub_species Japonica"
/db_xref="taxon:4530"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 335;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /clone_lib="Rice shoot"
/note="Etiolated shoot (8 days old)"
61 c 57 g 99 t 2 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cDNA Library Arrayed by: Greg Lennon, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 30; DB 9; L
Pred. No. 5.5e+02;
                                                                                                                                                                                                            1 (bases 1 to 335)
Sasakı,T. and Yamamoto,K.
Rice cDNA from etiolated shoot (2000)
Unpublished (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0.9%; Scor.
100.0%; Pred. No. ...
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1. .335
/organism="Oryza sativa"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /clone="S5277"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sequence.
A1650676
A1650676.1 GI:4734655
                                                                                     AU097484.1 GI:8860166
                                                                                                                                                                                                                                                                                                                                                     81-298-38-7441
81-298-38-7468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 0.99
Best Local Similarity 100.0
Matches 30; Conservative
                                                                                                                          Oryza sativa.
Oryza sativa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           human.
                                                                                                                                                                                                                                                                                                                                                       Tel:
                                                 DEFINITION
ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                               source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 16
A1650676/C
LOCUS
DEFINITION
RESULT 15
AU097484/c
LOCUS
                                                                                                        KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                             AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
                                                                                                                                                                                                                                                                                   COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δλ
```

```
DNA Sequencing by: Washington University Genome Sequencing Center Clone distribution: NCI-GGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:
www.bio.llnl.gov/bbrpt/lange/lange.html
Insert Length: 934 Std Error: 0.00
Seq primer: -40UP from Gibco
High quality sequence stop: 355.
High quality sequence stop: 355.
                                                                                                                                                                                                                                                                                                                                                                                                                       polylinker; Site_1: Not I; Site_2: Eco RI; Plasmid DNA from the normalized library NCI_CGAP_GC4 was prepared, and ss circles were made in vitro. Following HAP purificatio this DNA was used as tracer in a subtractive hybridization of 5,000 clones made from the same library (cloneIDs 1257096-1258631, 1469064-1470983, and 1475592-1476743). Subtraction by Bento Soares and M. Fatima Bonaldo. "
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BM169373 367 bp mRNA linear EST 04-DEC-2001
EST571896 PyBS Plasmodium yoelii yoelii cDNA clone PYCPP84 5' end,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Email: carlton@tigr.org
For clone info, please contact the Malaria Research and Reference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Plasmodium yoelii yoelii.
Plasmodium yoelii yoelii.
Plasmodium yoelii yoelii
Eukaryota; Alvacolata; Apicomplexa; Haemosporida; Plasmodium.
1 (bases 1 to 367)
Carlton,J.M., Daly,T.M., Long,C.A., Bergman,L.W., Vaidya,A.B., Fraser,C.M. and Carucci,D.J.
Plasmodium yoelii EST project at TIGR
Unpublished (2001)
Contact: Jane Carlton
Parasite Genomics Group
The Institute for Genomic Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9712 Medical Center Drive, Rockville, MD 20850, USA Tel: 301-530-9319
Fax: 301-838-0208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 362;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                /clone="IMAGE:2306699"
/clone_lib="NCI_CGAP_GC6"
/tissue_type="pooled germ cell tumors"
/lab_host="DH108"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Reagent Resource Center, ATCC
http://www.malaria.mr4.org/mr4pages/index.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Plasmodium yoelii yoelii"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0.9%; Score 30; DB 9; Ler
... Pred. No. 5.1e+02;
...hos 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /clone="PYCPP84"
/clone_lib="Py88"
/dev_stage="Asexual blood stages"
/lab_host="E. coll XL-1 Blue"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ilarity 100.0%; Pred. No. 5...
Conservative 0; Mismatches
                                                                                                                                                                                                                                                       /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             193 aaaaaaatttttttttttttttttttg 222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       354 AAAAAATTTTTTTTTTTTTTTTTTT 325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /db_xref="taxon:73239"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mRNA sequence.
BM169373
BM169373.1 GI:17302605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /strain="17XL"
                                                                                                                                                                                                                                      1. .362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Seg primer: ADF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
les 30; Conserv
```

```
g
/note="Vector: pAD-GAL4; At 20-25% parasitemia, blood was collected from BALB/CByJ mice infected with Py17xL parasites, and leukocytes removed by passage over microcrystalline cellulose collumns. Total RNA was isolated using the guanidinium isothiocyanate method, and mRNA isolated using oligo(d7)-cellulose chromatography. First strand cDNA synthesis was completed using a 50-base primer and reverse transcriptase in the presence of 5-methyl dc7p. After second strand synthesis, uneven termini were treated with Pfu DNA polymerase and EcoRI adaptors ligated to the blunt ends. The sample was cleaved with XNoI and separated on a Sephacryl S-500 column. Size-fractionated cDNA was precipitated and ligated to HybriZAP arms directionally using EcoRI-XNoI cleaved arms. After packaging, the phagemid vector (pAD-GAL4) was excised from the HybriZAP vector and plasmid DNA is a solution of the phagemid vector and plasmid DNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A2656316 383 bp DNA linear GSS 14-DEC-2000 1M0531117R Mouse 10kb plasmid UUGCIM library Mus musculus genomic clone UUGCIM0531117 R, DNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       308, Biomedical Polymers Research Bldg., 20 S. 2030 E., SLC, UT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalla; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
1 (bases 1 to 383)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Dunn, D., Aoyagi, A., Barber, M., Beacorn, T., Duval, B., Hamil, C., Islam, H., Longacre, S., Mahmoud, M., Meenen, E., Pedersen, T., Reilly, M., Rose, M., Rose, R., Stokes, R., Tingey, A., von Niederhausern, A. and Wright, D., Weiss, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mouse whole genome scaffolding with paired end reads from 10kb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /lab_host="E. Coli strain XL10-Gold, T1-resistant, F
/note="Vector: PWD42nv; Purified genomic DNA from M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /strain="C57BL/60"
/db_xref="taxon:10090"
/db_cree="UGC1M0531117"
/clone_lib="Mouse 10kb plasmid UUGC1M library"
/sex="Male"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0.9%; Score 30; DB 10; Length 367;
100.0%; Pred. No. 5e+02;
tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Email: ddunn@genetics.utah.edu
Insert Length: 10000 Std Error: 0.00
Plate: 0511 row: I column: 17
Seg primer: CACACAGGAAACAGCTATGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        104 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Mus musculus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Contact: Robert B. Weiss
University of Utah Genome Center
University of Utah
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               192 gaaaaaattttttttttttttttttt 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              High quality sequence stop: 383.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            42 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AZ656316.1 GI:11793462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Class: plasmid ends
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Unpublished (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tel: 801 585 5606
Fax: 801 585 7177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  plasmid inserts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
nes 30; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    house mouse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GSS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 18
AZ656316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMMENT
```

ò q

```
(http://www.jax.org/resources/documents/dnares/). The DNA was hydrodynamically sheared by repeated passage through a 0.005 inch orifice at constant velocity. The sheared DNA was blunt end-repaired with T4 DNA polymerase and T4 polymucleotide kinase. Adaptor oligonucleotides were ligated to the blunt ends in high molar excess. The adaptored DNA was purified and size-selected for a 9.5 to 10.5 kb range using preparative agarose gelectrophoresis. Vector DNA was prepared from a derivative of pwwd2 (gil4732114)gb[AF129072.1], a copy-number inducible derivative of plasmid Rl. The vector was ligated with adaptors complementary to the insert adaptors and purified. The sheared, adaptored mouse DNA was annealed to adaptored vector DNA, and transformed into chemically-competent E. coli XLIOGOId (Stratagene) cells and selected for ampicillin resistance."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BGG83139 396 bp mRNA linear EST 01-MAY-2001
602651625F1 NIH_MGC_47 Homo sapiens cDNA clone IMAGE:4761511 5',
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /tissue_type="neuroblastoma, cell line"
/lab_host="PH10B (phage-resistant,"
/note="Corgan: brain, Vector: pOTB7; Site_1: XhoI; Site_2:
Foor to record to record to rectionally
cloned into EcoRI/XhoI sites using the following 5'
adaptor: GCCACGAG(G). Size-selected >SOUDp for average
insert size 1.8kb. Library constructed by Ling Hong in
the laboratory of Gerald M. Rubin (University of
California, Berkeley) using ZAP-CDNA synthesis kit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. I (bases 1 to 396)
NIH-WGC http://mgc.nci.nih.gov/.
musculus C57BL/6J (male) was obtained from the Jackson
Laboratory Mouse DNA Resource
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               cDNA Library Preparation: Ling Hong/Rubin Laboratory cDNA Library Preparation: Ling Hong/Rubin Laboratory cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL) DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:
http://image.lnl.gov
Plate: LLCM1614 row: b column: 08
High quality sequence stop: 115.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 383;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0.9%; Score 30; DB 12; I
100.0%; Pred. No. 4.8e+02;
Live 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1. .396
/organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /db_xref="taxon:9606"
/clone="IMAGE:4761511"
/clone_lib="NIH_MGC_47"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BG683139.1 GI:13914536
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ouery Match 0.9
Best Local Similarity 100.
Matches 30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BG68313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 19
BG683139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORIGIN
```

```
discovery
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       97044477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                             VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                            LOCUS
                                                                                                                                                                                                                  21
                                                                                                                                                                                                                                          BI284201/c
                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMMENT
                                                                                                                                                                                                                  RESULT
                                                                                                             ò
                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa; Nematoda; Chromadorea; Ascaridida; Ascaridoidea; Ascaris: Ascaris descriptions: 1 (bases 1 to 403)

McCarter, J., Clifton, S., Chiapelli, B., Pape, D., Martin, J., Wylie, T., Dante, M., Marra, M., Hillier, L., Kucaba, T., Theising, B., Bowers, Y., Glabons, M., Ritter, E., Bennett, J., Franklin, C., Tsagareishvili, R., Ronko, I., Kennedy, S., Maguire, L., Beck, C., Underwood, K., Steptoe, M., Allen, M., Person, B., Swaller, T., Harvey, N., Schurk, R., Schurk, R., Kohn, S., Maller, T., Mackson, Y., Cardenas, M., McCann, R., Waterston, R. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The library was constructed by Brandi Chiapelli and Dr. James McCarter at Washington University, St. Louis. The CDNA was made by using Dynabead oligo-dT priming (Dynal). PCR based library using a modified protocol from the SMART PCR cDNA Synthesis Kit from Clontech. Directionally cloned into the UDG sites of pAMPI. Dissected nematode tissues were provided by Dr. Alan Scott (ascott@jhsph.edu ) of the School of Public Hygene and Public Health at John Hopkins University in Baltimore, MD."
                                                                                                                                                                                                                                                                                                                                        ACOLYJ ASCATÍS SUUM female gonad DZ pAMP1 v2 Chiapelli McCarter Ascatís suum cDNA 5' similar to SW:PF11_PIG P51524 PROPHENIN-1 PRECURSOR; mRNA sequence.
                                                                                                                                                                       ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /tissue_type="Dissected female gonad (DZ=differentiation zone, middle region of gonad)" /dev_stage="Adult" /lab_host="BallOB" /lab_host="BallOB"
(Stratagene) and Superscript II RT (Life Technologies). Note: this is a NIH_MGC Library." 94\ c \qquad 98\ g \qquad 111\ t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Email: est@watson.wustl.edu
This clone is available royalty-free through LLNL; contact the
IMAGE Consortium (info@image.llnl.gov) for further information.
Possible reversed clone: similarity on wrong strand
High quality sequence stop: 115.
Location/Qualifiers
                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unpublished (1999)
Contact: McCarter JP
Washington Univ. Nematode EST Project, 1999
Washington University School of Medicine
4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108, USA
Fel: 314 286 1810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                             Length 396;
                                                                                                                                                                     0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The Washington Univ. Nematode EST Project, 1999
                                                                                                                        0.9%; Score 30; DB 10; I
100.0%; Pred. No. 4.7e+02;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                 193 aaaaaaattttttttttttttttttg 222
                                                                                                                                                                                                                                                                                                                                                                                                                                                 BM034050
BM034050.1 GI:16747621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /sex="Female"
                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  pig roundworm.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ascaris suum
                                                                                                                                               Local Similarity
                                            Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           227
                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                        BM034050/c
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                        BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BASE COUNT
                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                      RESULT
                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                   QQ
```

ORIGIN

```
Email: msoares@blue.weeg.uiowa.edu
The sequence contained an oligo-dr track that was present in the
oligoundisotide that was used to prime the synthesis of first
strand cDNA and therefore this may represent a bonafide poly A
tail. The sequence tag present in the cDNA between the NotI site
and the oligo-dr track served to identify it as a clone from the
non-normalized rat placenta pool library cDNA Library Preparation:
M.B. Soares Lab Clone distribution: clones will be available
through Research Genetics (www.resgen.com) The following repetitive
elements were found in this cDNA sequence: 40-176,
>POLY A#Simple_repeat 206-228, >GC_rich#Low_complexity 333-353,
SAT_rich#Low_complexity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /strain="Sprague-Dawley"
/strain="Sprague-Dawley"
/dbox=ref="taxon:10116"
/clone_lib="UT-R-CX0S-ccn-d-08-0-UI"
/clone_lib="UT-R-CX0S-ccn-d-08-0-UI"
/dab_host="DBIUOB (Life Technologies)"
/dab_host="DBIUOB"
/dab_host="D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Jacowacu 586 bp mRNA linear EST 19-JUL-2001 UI-R-CXOs-ccn-d-08-0-UI.sl UI-R-CXOs Rattus norvegicus cDNA clone UI-R-CXOs-ccn-d-08-0-UI 3', mRNA sequence.
                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 (bases 1 to 586)
Bonaldo,M.F., Lennon,G. and Soares,M.B.
Normalization and subtraction: two approaches to facilitate gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      451 Eckstein Medical Research Building Iowa City, IA 52242, USA Tel: 319 335 8250
Fax: 319 335 9565
                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rattus norvegicus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleosto
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
                                                                                                  ö
    Length 403;
                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Contact: Soares, MB
Program for Rat Gene Discovery and Mapping
                                            4.6e+02;
0.9%; Score 30; DB 10;
100.0%; Pred. No. 4.6e+02
:ive 0; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
1. .586
/organism="Rattus norvegicus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TAG_TISSUE=rat placenta pool
TAG_SEQ=TCACGACAGT"
104 c 143 q 76 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Genome Res. 6 (9), 791-806 (1996)
                                                                                                                                                                                 BI284201.1 GI:14936667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  University of Iowa
Query Match 0.9°
Best Local Similarity 100°.
Matches 30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Norway rat.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     POLYA-Yes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BASE COUNT
ORIGIN
```

ö

Gaps

ð

```
/strain="HM1:IMSS"
/db.ref="taxon:5759"
/dloe_"lbe"Entamoeba histolytica Sheared DNA"
/clone_libe"Entamoeba histolytica Sheared DNA"
/note="vector: pH051: Site_1: Bst 1; Constructed at The
/note="vector: pH051: Site_1: Bst 1; Constructed at The
Institute for Genomic Research (TIGR), Rockville, MD.
Genomic DNA isolated from broth cultures of E. histoly
using a method described by Clark and Diamond, L.S. (1993) Entamoeba histolytica: a
method for isolate identification. Exp. Parasitol.
77:450.) The DNA was mechanically sheared to give a
fight size distribution (-2 kb). The v + i method used for
the library construction is described in detail in Smith,
H.O. and Venter, J.C. (Making small insert libraries for
whole genome shotgun sequencing projects. In Genome
Sequencing: A Practical Approach, eds. M. Vaudin and B.
Barell, Oxford University Press, 1999)."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota: Entamobidae; Entamoeba.

Eukaryota: Entamobidae; Entamoeba.

E (bases 1 to 785)

Loftus, B. Wang, Z., Van Aken, S. and Fraser, C.

Determination of clone end sequences from Entamoeba histolytica
HM1:IMSS sheared DNA library (2001)

L Unpublished (2001)

Contact: Brendan J Loftus

Contact: Brendan J Loftus

Contact: Brendan J Loftus

Department of Eukaryotic Genomics

The Institute for Genomic Research

712 Medical Center Dr., Rockville, MD 20850, USA

Tel: 301 838 9343

Email: bjloftus@tigr.org

Clones are derived from the Entamoeba histolytica HM1:IMSS sheared
                                                                                                                                                                                                                                                                                                                                     GSS 27-AUG-2001
                                                                                                                                                                                                                                                                                                                                     BH150657 1785 bp DNA linear GSS 27-AUG-200
ENTPK51TF Entamoeba histolytica Sheared DNA Entamoeba histolytica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ..
0
                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 785;
                                             DB 12; Lens.
0. 3e+02;
0; Indels
                                                                 Length 627;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Entamoeba histolytica"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0.9%; Score 30; DB 12; I
100.0%; Pred. No. 2.4e+02;
iive 0; Mismatches 0;
                                                    0.9%; Scor.
100.0%; Pred. No. sec.
... 0; Mismatches
                                                                                                                                                                1520 agaaggagaaggggaaggagaaggagaagg 1549
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         193 aaaaaaattttttttttttttttttttg 222
                                                                                                                                                                                           High quality sequence start: 17
High quality sequence stop: 325.
Location/Qualiflers
1.785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Seq primer: M13-Forward
                                                                                                                                                                                                                                                                                                                                                                                                                               BH150657.1 GI:15312424
                                                                                                                                                                                                                                                                                                                                                                                  genomic, DNA sequence.
BH150657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Entamoeba histolytica
Entamoeba histolytica
                                                                                                                30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Class: shotgun
                                                                                            Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DNA library
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
nes 30; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local S:
Matches 30
                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sonrce
                                                                                                                                                                                                                                                                                                                                                           DEFINITION
                                                                                                                                                                                                                                                                                     RESULT 23
BH150657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                               VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOURCE
ORIGIN
                                                                                                                                                                                                                                                                                                                                     LOCUS
                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (http://www.jax.org/resources/documents/dnares/). The DNA was hydrodynamically sheared by repeated passage through a 0.005 inch orifice at constant velocity. The sheared DNA was blunt end repaired with T4 DNA polymerase and T4 polymuclectide kinase. Adaptor oligonuclectides were ligated to the blunt ends in high molar excess. The adaptored DNA was purified and size-selected for a 9.5 to 10.5 kb range using preparative agarose gel electrophoresis. Vector DNA was prepared from a derivative of pWD42 (gil4732114) gblaf123072.1), a copy-number inducible derivative of plasmid R1. The vector was ligated with adaptors complementary to the insert adaptors and purified. The sheared, adaptored mouse DNA was annealed to adaptored vector DNA, and transformed into
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5
                                                                                            ö
                                                                                                                                                                                                                                                                                                         GSS 20-FEB-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             chemically-competent E. coli XLIO-Gold (Stratagene) cells and selected for ampicillin resistance." 82\ c 176\ g 111\ t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi; Mammalla; Eutherlai; Rodentla; Sciurognathi; Muridae; Murinae; Mus. 1 (bases 1 to 627)
Dunn, D., Aoyagi, A., Barber, M., Beacorn, T., Duval, B., Hamil, C., Islam, H., Longacres, S., Mahmoud, M., Meenen, E., Pedersen, T., Reilly, M., Rose, M., Rose, R., Stokes, R., Tingey, A., von Niederhausern, A.
                                                                                                                                                                                                                                                                           627 bp DNA linear GSS 20-FEB-200
2M0130N15R Mouse 10kb plasmid UUGC1M library Mus musculus genomic
clone UUGC2M0130N15 R, DNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="Vector: PWD42nv; Purified genomic DNA from M. musculus C57BL/6J (male) was obtained from the Jackson Laboratory Mouse DNA Resource
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E., SLC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /organism="Mus musculus"
/strain="c57BL/6J"
/db xref="taxon:10090"
/clone="UUGC2M0130N15"
/clone="hb="Mouse 10kb plasmid UUGC1M library"
/sex="Male" Coli strain XL10-Gold, T1-resistant, F-"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mouse whole genome scaffolding with paired end reads from 10kb plasmid inserts
                                                                                          Gaps
                                                                                            ;;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         s. 2030
                                             Length 586;
                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         308, Blomedical Polymers Research Bldg., 20
                                             DB 10; I
3.2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ddunn@genetics.utah.edu
Lenath: 10000 Std Error: 0.00
                                        11arity 100.0%; Score 30; DB 10arity 100.0%; Pred. No. 3.2 Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Insert Length: 10000 Std Error: (Plate: 0130 row: N column: 15
Seq primer: CACACAGGAAACAGCTATGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Unpublished (2000)
Contact: Robert B. Weiss
University of Utah Genome Center
University of Utah
                                                                                                                                       193 aaaaaaattttttttttttttttttttg 222
                                                                                                                                                                High quality sequence stop: 627.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                   AZ836143.1 GI:13006051
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   801 585 5606
801 585 7177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mus musculus
                                        Query Match
Best Local Similarity
Matches 30; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                   house mouse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ema 11:
                                                                                                                                                                                                                                                       RESULT 22
AZ836143
                                                                                                                                                                                                                                                                                                         LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                      VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
```

ö

Gaps

```
829 AAAAATTTTTTTTTTTTTTTTTTTTTTTTTT 800
                                                                                                                                                                                                                                                                                                                                          195 aaaaatttttttttttttttttttttgtt 224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Plate: 1147 row: H column: 16
Seg primer: T7
 Seq primer: TR
Class: sheared ends.
Location/Qualifiers
                                                       1. .835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Class: BAC ends
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            human.
                                                                                                                                                                                                                                                                                                                                                                                                                           AQ752154/c
LOCUS
                                                           source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                  BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
MEDLINE
COMMENT
                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                     ORIGIN
                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                             pp
                                      EST 31-JUL-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BH431115 83 12-DEC-2001
BOGZT39TR BOGZ Brassica oleracea genomic clone BOGZT39, DNA
                                                                                                                                                                              Eukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta, Spermatophyta, Magnoliophyta, eudicotyledons, core eudicots;
Rosidae, eurosids I, Fagales, Fagaceae, Castanea.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
Rosidae; eurosids II; Brassicales; Brassicaceae; Brassica.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /clone="3A/800"
/clone_lib="American Chestnut cDNA stem library ACEST002"
                                                                                                                                                                                                                                  1 (bases 1 to 824)
Connors,B.J. and Powell,W.A.
Expressed sequence tags of cDNA clones from an American Chestnut
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                   BE488177 824 bp mRNA linear EST 31-JT 3A/800 American Chestnut cDNA stem library ACEST002 Castanea dentata cDNA clone 3A/800, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Tel: 301-838-3523
Fax: 301-838-0208
Email: cdtown@tigr.org
DNA is from a doubled haploid provided by Tom Osborn.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 (bases 1 to 835)
Town, C.D., Van Aken, S., Utterback, T. and Fraser, C.M. Whole genome shotgun sequencing of Brassica oleracea Other_GSSs: BoGZT39TF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0.9%; Score 30; DB 10; Length 824;
100.0%; Pred. No. 2.3e+02;
Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9712 Medical Center Drive, Rockville, MD 20850, USA
                                                                                                                                                                                                                                                                                                 Unpublished (2000)
Contact: Powell WA
Forest Biotechnology, EFB
SUNY College of Environmental Science & Forestry
I Forestry Drive, Syracuse, NY 13210-2788, USA
Tel: 315 470 6744
Fax: 315 470 6934

    .824
    /organism="Castanea dentata"
    /db_xref="taxon:134033"

                                                                                                                                                                                                                                                                                                                                                                                                                               Email: wapowell@esf.edu
Insert Length: 824 Std Error: 0.00
POLYA=No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     188 tattgaaaaaatttttttttttttttt 217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /tissue_type="stem"
/dev_stage="2 years+"
154 c 162 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BH431115
BH431115.1 GI:17616836
                                                                                                         BE488177.1 GI:9607710
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: Chris Town
                                                                                                                                              American chestnut.
Castanea dentata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Brassica oleracea
Brassica oleracea
                                                                                                                                                                                                                                                                                        stem library
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sednence.
                                                                                          BE488177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 25
BH431115/c
LOCUS
RESULT 24
BE488177/C
                                   LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BASE COUNT
                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                  REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
TITLE
JOURNAL
                                                                                         ACCESSION
                                                                                                       VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                         COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         οp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
```

```
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 1087) Mahairas, G.G., Wallace, J.C., Smith, K., Swartzell, S., Holzman, T., Mahairas, G.G., Wallace, T., Furlong, J., Young, J., Zhao, S., Adams, M.D. and Hood, L.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note="Wector: pBACe3.6; Site_1: EcoRI; Site_2: EcoRI; Male blood DNA was isolated from one randomly chosen donor and partially digested with a combination of EcoRI and EcoRI Methylase. Size selected DNA was cloned into the pBACe3.6 vector at EcoRI sites"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GSS 19-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     High Throughput Sequencing Center University of Washington Center University of Washington Center University of Washington Center (206) G16-3618

Fax: (206) 616-3817

Fax: (206) 616-3887

Figure 1: For BAC Contex are derived from the human BAC Library RPCI-11. For BAC Library availability, please contact Pieter de Jong (Pieter@dejong.med.buffalo.edu). Clones may be purchased from BACPAC Resources (http://bacpac.med.buffalo.edu/ordering_bac.htm) or from Resear Genetics (info@resgen.com). BAC end Web Server: http://www.htsc.washington.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AQ752154 101:5539312 DNA 11near USS 1, USS 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence-tagged connectors: A sequence approach to mapping and
                                                    /strain="TO10000H3"
/db_xref="taxon:3712"
/clone="B002E139"
/clone=lib="B0G2"
/clone=lib="B0G2"
/note="Vector: pH0S1; Site_1: BstX1; 2-3 kb sheared
/note="Vector: pH0S1; Site_1: BstX1; 2-3 kb sheared
a 223 c 173 g 209 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /clone="plate=1147 Col=16 Row=H"
/clone_lib="RPCI-11 Human Male BAC Library"
/sex="male"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 835;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    scanning the human genome
Proc. Natl. Acad. Sci. U. S. A. 96 (17), 9739-9744
99380589
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 12; L
2.2e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Contact: Mahairas GG, Wallace JC, Hood L
/organism="Brassica oleracea"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ouery Match 0.9%; Score 30; DB Best Local Similarity 100.0%; Pred. No. 2.2 Matches 30; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /organism="Homo sapiens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        High quality sequence stop: 1087.
Location/Qualifiers
1. .1087
```

```
T. brucel sheared genomic DNA linear GSS 13-DEC-2000 genomic survey sequence.
AL480722
                                                                                                                                                                                                                                                                                                             nhlesanger.ac.uk
Constructed at the Institute for Genomic Research (TIGR),
Rockville, MD. Genomic DNA isolated from a cloned population of
Trypanosoma brucei (TRE0927/4 GUTat 10.1) was mechanically sheared
to give a tight size distribution (
4 kb). The v + i method used for the library construction is
described in detail in Smith, H. and Venter, J.C. (Maxing small
insert libraries for whole genome shotgun sequencing projects. In
Genome Sequencing: A Practical Approach, eds. M. Vaudin and B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            nhiesanger.ac.uk
Constructed at the Institute for Genomic Research (TIGR),
Rockville, MD. Genomic DNA isolated from a cloned population of
Trypanosoma brucei (TRED927/4 GUTat 10.1) was mechanically sheared
to give a tight size distribution (
4 kb). The v + i method used for the library construction is
described in detail in Smith, H. and Venter, J.C. (Making small
insert libraries for whole genome shotgun sequencing projects. In
Genome Sequencing: A Practical Approach, eds. M. Vaudin and B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Email: nelsayed@tigr.org
Details of T. brucei sequencing at the Sanger Centre are available
at http://www.sanger.ac.uk/Projects/T_brucei/.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Trypanosoma.

1 (bases 1 to 34)
Hall, N. Bowman, S., Lennard, N.J., Doggett, J., Atkin, R.,
Hall, N. Bowman, S., Lennard, D., Harris, B., El-Sayed, N., Hou, L.,
Melville, S.E., Rajandream, M.A. and Barrell, B.G.
Direct Submission
Submission
Submission
Free Submission
Fr
                                                                       Trypanosoma.

1 (bases 1 to 30)
Hall, N., Bowman, S., Lennard, N.J., Doggett, J., Atkin, R.,
Chillingworth, C., Ormond, D., Harris, B., El-Sayed, N., Hou, L.,
Melville, S. E., Rajandream, M. A. and Barrell, B.G.
Direct Submission
Submitsed (10-DEC-2000) Trypanosoma brucel genome sequencing
project, Sanger Centre, The Wellcome Trust Genome Campus, Hinxton,
Cambridge CBIO 1SA, B-mail: barrell@sanger.ac.uk and
                        Trypanosoma brucei
Eukaryota; Euglenozoa; Kinetoplastida; Trypanosomatidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Trypanosoma brucei'
Eukaryota; Euglenozoa; Kinetoplastida; Trypanosomatidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0.9%; Score 29; DB 12;
100.0%; Pred. No. 1e+04;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /organism="Trypanosoma brucei"
/strain="TREU927"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    193 aaaaaaattttttttttttttttttt 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /db_xref="taxon:5691"
/clone="247f06"
0 c 0 q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AL480722.1 GI:11846491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Trypanosoma brucei.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity 100.
Matches 29; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE
JOURNAL
                                                                                                                                                                                                             TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
                                                                                                     REFERENCE
                                                                                                                                 AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TA222B09P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMMENT
                                                                                                                                                                                                                                                                                                                                              COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOURCE
  SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              T.Drucel sheared genomic DNA linear GSS 13-DEC-2000
genomic survey sequence.
AL483252
                                                                                                                                                                                                                                                                                                                                                         AGENCOURT_6438703 NIH_MGC_71 Homo sapiens cDNA clone IMAGE:5535531 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ó
                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 1120)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NIH-MGC http://mgc.ncl.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                         ٠,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 1120;
                                                                                                     Length 1087;
53 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                      Indels
                                                                                                     DB 12; L
1.7e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0.9%; Score 30; DB 10; I
llarity 100.0%; Pred. No. 1.7e+02;
Conservative 0; Mismatches 0;
ų
                                                                                                                100.0%; Preu. ...
84
                                                                                                                                                                                                                                   Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-rémail.nih.gov
Tissue procurement: ATCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    798 GAAAAAATTTTTTTTTTTTTTTTTTTTTTTTT 769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         192 gaaaaaaatttttttttttttttttt 221
                                                                                                                                                                                                           192 gaaaaaatttttttttttttttttttt 221
                                                                                                        Score 30;
  δ
295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AL483252.1 GI:11848928
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BM464445.1 GI:18513487
                                                                                                     0.98;
  Ç
                                                                                                                           Best Local Similarity 100.0
Matches 30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best_Local Similarity
Matches 30; Conserv
  Ø
415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ouery Match
                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                  BM464445/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TA247F06P
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                           ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
```

ö

Gaps

ö

Length 30; 0; Indels

```
Direct Submission
Submitted (12-APR-2000) to the EMBL/GenBank/DDBJ databases
This sequence is a single read and was generated as part of a large
scale clone-end sequencing project of the Tetraodon nigroviridis
genome. For more information, please take a look at
http://www.genoscope.cns.fr/Tetraodon.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CNSO48HA 68 bp DNA linear GSS 19-MAY-2000 Tetraodon nigroviridis genome survey sequence PUC-Ori end of clone 090014 of library G from Tetraodon nigroviridis, genomic survey
                                                                                                                                                                                                                                                                                                                                                                   ö
Barrell, Oxford University Press, 1999).
Email: nelsayed@tigr.org
Details of T. brucel sequencing at the Sanger Centre are available
at http://www.sanger.cc.uk/Projects/T_brucei/.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Actinopterygii; Neopterygii; Teleostei; Buteleostei; Neoteleostei; Acanthopterygii; Teleostei; Euteleostei; Neoteleostei; Acanthopterygii; Terradoniformes; Tetradoniformes; Tetradoniformes; 1 (bases 1 to 68)

Roest-Crollius, H., Jaillon, O., Dasilva, C., Fizames, C., Fisher, C., Bouneau, L., Billault, A., Quetier, Saurin, W., Bernot, A. and Weissenbach, J.

Charaterization and repeat analysis of the compact genome of the freshwater pufferfish Tetraodon nigroviridis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Roest-Crollius, H., Jaillon, O., Dasilva, C., Bouneau, L., Fisher, C., Bernot, A., Fizames, C., Wincker, P., Brottier, P., Quetier, F., Saurin, W. and Weissenbach, J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human gene number estimate provided by genome wide analysis using
                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            : COBG090BH07SP1~end :
                                                                                                                                                                                                                                                                                                                                                                   ;
0
                                                                                                                                                                                                                                                                                                                  ch 0.9%; Score 29; DB 12; Length 34; I Similarity 100.0%; Pred. No. 9e+03; 29; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Tetraodon nigroviridis"
/db_xref="taxon:99883"
/clone="090014"
                                                                                                                                   /organism="Trypanosoma brucei"
/strain="TRE0927"
/db_xref="taxon:5691"
/clone="222b09"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /clone_lib="G"
/note="Genoscope sequence ID
                                                                                                                                                                                                                                  ų
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ىد
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Tetraodon nigroviridis DNA sequence
                                                                                                                                                                                                                                  22
                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                             6 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GSS; genome survey sequence.
Tetraodon nigroviridis.
Tetraodon nigroviridis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AL279271.1 GI:8016612
                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (bases 1 to 68)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3 (bases 1 to 68)
Genoscope.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PUC-Ori"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             sednence.
                                                                                                                                                                                                                                                                                                                      Query Match
Best Local
                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 30
                                                                                                                                                                                                                             BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CNS048HA
                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
                                                                                                                                                                                                                                                    ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                ð
```

Score 29; DB 12; Length 68;

0.98;

Query Match

```
Gaps
                  ö
                  Indels
   Pred. No. 4.5e+03;
Best Local Similarity 100.0%; Pred. No. 4.5
Matches 29; Conservative 0; Mismatches
                                                     193 aaaaaaatttttttttttttttttttt 221
                                                                        28 AAAAAATTTTTTTTTTTTTTTTTTTTTT 56
                                                     δλ
                                                                                      g
```

; 0

Search completed: June 14, 2002, 19:14:07 Job time: 13461 sec

us-09-667-130-1.rst

						•,
÷			•			
					Å,	
	··					
				1 • 1		
	·• /					
		3			¥,	
			* ;			• ;
						•
	i i					• •

syste

OM nucleic

Run on:

```
Trichophyton menta
Human polynucleoti
Human colon.cancer
Human colon.cancer
Human immune syste
Human immune syste
                                                                                                                                                                                                                                                                                                           Chemically pretrea
Nucleotide sequenc
Chemically pretrea
Chemically pretrea
Human musculoskele
Human musculoskele
                                                                              Human polynucleoti
                                                                                                                                                                                                                                                                   Human nervous syst
Human genomic DNA
Human digestive sy
                                                Oligonucleotide sp
Human polynucleoti
Human polynucleoti
                                                                                                                                                                                     Human immune/haema
        Drosophila melanog
                                                                                                                                                                                                                                                           Juman ORFX ORF2321
                     Chemically pretrea
                                                                                                                                                                                                                                                                                                   Human liver associ
                              Human immune
Triple helix
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note= "encodes initial (N-terminal) sequence of
  hydrophobic amino acids"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /*tag= b
/note= "contains typical malaria intervening
sequence splice sites splice sites"
231..3197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               malaria; infection;
polyclonal; assay;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           P. vivax ESP-1 blood stage antigen coding sequence.
                                                                                                                                                                                                                                                                                                                                                                                              ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ESP-1; blood stage antigen; diagnosis; causative agent; antibody; monoclonal;
                                                                              AAI85033
AAI91956
AAI84186
                                                                                                                                                                                                                 AAI88875
AAA02473
ABL34307
                                                                                                                                                                                                                                               AAK86252
AAC76766
ABA14588
                                                                                                                                                                                                                                                                                                                                 AAS45338
AAS45339
                                                                                                                                                                                                                                                                                                                                                     AAL36600
AAL36603
                                                                                                            AAI84071
AAI82188
AAI87091
                                                                                                                                          AAI87993
AAI84767
AAI89825
                                                                                                                                                                        AA184618
AAK63939
                                                                                                                                                                                                                                                                                                   AAS31879
                                                                                                                                                                                              AAH00504
                                                                                                                                                                                                      AA188874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Socation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Plasmodium vivax (clone PvMB3.3.1).
                                                                                                                                                                                                                                                                                                                                                                                                                                               BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                               AAT34620 standard; DNA; 3337
93US-0072610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12-NOV-1996 (first entry)
                                       11139
1873
2586
3270
4978
                                                                                                                                                                                                                                                                                                  4978
5690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1..91
/*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      92..230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /*tag=
02-JUN-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US5532133-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  02-JUL-1996
AAT34620;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        intron
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 exon
                                                                                                                                                                                                                                                                                                                                                                                                                                    AAT34620
00000000000000000
                                                                                                                                                                                                                                          000
                                                                                                                                                                                                                                                                                                               υυ
                                                                                                                                                                                                                                                                                                                                            000
                                                                                                                                                                                                                                                                                                                                                                                                                                                          (without alignments)
16273.770 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    P. vivax ESP-1 blo
DNA encoding a sec
Plasmodium vivax E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tumour suppressor
Human immune syste
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gene regulat
polynucleoti
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              breast cance
breast cance
                                                                                                                                                                                                                                                                                            N_Geneseq_032802:*

| SIDSI/gcgdata/geneseq/geneseqn-embl/NA1980.DAT:*
| SIDSI/gcgdata/geneseq/geneseqn-embl/NA1981.DAT:*
| SIDSI/gcgdata/geneseq/geneseqn-embl/NA1981.DAT:*
| SIDSI/gcgdata/geneseq/geneseqn-embl/NA1983.DAT:*
| SIDSI/gcgdata/geneseq/geneseqn-embl/NA1983.DAT:*
| SIDSI/gcgdata/geneseq/geneseqn-embl/NA1985.DAT:*
| SIDSI/gcgdata/geneseq/geneseqn-embl/NA1986.DAT:*
| SIDSI/gcgdata/geneseq/geneseqn-embl/NA1986.DAT:*
| SIDSI/gcgdata/geneseq/geneseqn-embl/NA1986.DAT:*
| SIDSI/gcgdata/geneseq/geneseqn-embl/NA1989.DAT:*
| SIDSI/gcgdata/geneseq/geneseqn-embl/NA1999.DAT:*
| SIDSI/gcgdata/geneseq/geneseqn-embl/NA1999.DAT:*
| SIDSI/gcgdata/geneseq/geneseqn-embl/NA1991.DAT:*
| SIDSI/gcgdata/geneseq/geneseqn-embl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        No. is the number of results predicted by chance to have a greater than or equal to the score of the result being printed, s derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Description
                                                                                                                                1 gaattooggtaaagtaacaa.....tottataaaataaataatto
                                                                  June 14, 2002, 17:26:02 ; Search time 352.06 Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Нишап
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human
                                                                                                                                                                                                                            3472872
        GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                                                          Total number of hits satisfying chosen parameters:
                                                                                                                                                                                  1736436 segs, 858457221 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SUMMARIES
                                                                                                                                                                                                                                                                             Post-processing: Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAT34620
AAX15174
AAH76457
AAS46299
ABL32222
AAS61081
AAI82170
AAL11387
AAL20286
                                                - nucleic search, using sw model
                                                                                                                                                   OLIGO_NUC
Gapop 60.0 , Gapext 60.0
                                                                                                                                                                                                                                                length: 0
length: 2000000000
                                                                                                            US-09-667-130-1
3337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3337
3337
3337
6862
6862
6862
334
337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0
100.0
100.0
1.0
1.0
1.0
0.9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred. No.
                                                                                                                                                                                                                                              Minimum DB seq
Maximum DB seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3337
3337
3337
33
33
30
30
30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score
                                                                                                                     Perfect score:
                                                                                                                                                    Scoring table:
```

Word size :

Searched:

Sequence:

Database :

score g

Result õ

000

```
1381
                                                                                                                                                                                                                                                                                                                                                                        1561
                                                                                                                                                                                                                                                                                                                                                                                               1621
                                                                                                                                                                                                                                                                                                                                                                                                                       1681
                                                                                                                                                                  1021
                                                                                                                                                                              1081
                                                                                                                                                                                          1081
                                                                                                                                                                                                     1141
                                                                                                                                                                                                                 1141
                                                                                                                                                                                                                             1201
                                                                                                                                                                                                                                        1201
                                                                                                                                                                                                                                                    1261
                                                                                                                                                                                                                                                               1261
                                                                                                                                                                                                                                                                           1321
                                                                                                                                                                                                                                                                                      1321
                                                                                                                                                                                                                                                                                                   1381
                                                                                                                                                                                                                                                                                                                         1441
                                                                                                                                                                                                                                                                                                                                                 1501
                                                                                                                                                                                                                                                                                                                                                            1501
                                                                                                                                                                                                                                                                                                                                                                                    1561
                                                                                                                                                                                                                                                                                                                                                                                                           1621
                                                                                                                                                                                                                                                                                                                                                                                                                                  1681
501
           661
                       561
                                   721
                                              721
                                                          781
                                                                      781
                                                                                  841
                                                                                             841
                                                                                                         901
                                                                                                                     901
                                                                                                                                961
                                                                                                                                           196
                                                                                                                                                       1021
                                                                                                                                                                                                                οp
                                                                                                                                                                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                  q
           QΥ
                      qq
                                   Qγ
                                             q
                                                          δ
                                                                      g
                                                                                  δý
                                                                                            Db
                                                                                                         δ
                                                                                                                     合
                                                                                                                               Qγ
                                                                                                                                           qq
                                                                                                                                                       δ
                                                                                                                                                                QQ
                                                                                                                                                                              δ
                                                                                                                                                                                          g
                                                                                                                                                                                                     ŏλ
                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                   ō
                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                           Qγ
                                                                                                                                                                                                                                                                                                  δy
                                                                                                                                                                                                                                                                                                                         Óγ
                                                                                                                                                                                                                                                                                                                                                 òγ
                                                                                                                                                                                                                                                                                                                                                            QQ
                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                   pp
                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                         ö
                                                                                            The present sequence encodes a species-specific Plasmodium vivax malarial antigen, PVESP-1. The gene appears to be missing a small portion of its 5' end. This protein is secreted into the plasma of a susceptible mammalian host after infection. Monoclonal/polyclonal antibodies can be utilised in assays used to diagnose malaria, as well as to determine whether P. vivax is the species responsible for the
                                                                                                                                                                                                                                                                                                                                                                                                                            099
                                                                                                                                                                                                                                                                                                                                                                                                     009
                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                                                                009
                                                                                                                                                                         Gaps
                                                                                                                                                                                    9
                                                                                                                                                                                               9
                                                           d to
species
                                                                                                                                                                                                                                  ttttgcttttcttttaattcatgcttcaacagtaagataaaaataatctataaaaactgc
                                                                                                                                                                                                                                                               gaattocggtaaagtaacaactatggtttcgtatctatatataaccttactaattttatc
                                                                                                                                                                                                                  cccccgaagatgactttgccttaacagatttgccaattgaagacgatgaggaagtcaacg
                                                                                                                                                                                                                                                                                                                                     aagaagctggcgatatggaagcaggggaagaagctggtgatttggaagcaggggaagaaa
                                                                                                                                                             3337;
                                                                                                                                                                         ;
                                                           used
the s
                                                                                                                                                             Length
                                                                                                                                                                         Indels
                                                                                                                                            other;
                                                           antigens -
                                                                                                                                                             17;
                                                                                                                                            0
                                                                                                                                                                       0;
                                                                                                                                            Ė
                                                                                                                                                             DB
                                                                 <u>с</u>
                                                                                                                                            691
                                                                                                                                                            Score 3337; I
Pred. No. 0;
; Mismatches
                                                                whether
                                                                                                                                            Ċ
                                                                                  English
                                                          m vivax blood
determine whe
                                                                                                                                            C; 875
                                                                                                                                                                        .;
                                                                                 Example 4; Column 15-20; 22pp;
                                                                                                                                                            100.0%;
                                                                                                                                            BP; 1304 A; 467
                  STATE
      93US-0072610
                                                                      responsible for infection
                                                                                                                                                                  Best_Local Similarity 100.
Matches 3337; Conservative
                                                           Plasmodium
                                                                 ಧ
                 NEW YORK
                                                               diagnose malaria and
                                         WPI; 1996-321110/32
                                              P-PSDB; AAR98747
                                                           ç.
                                                                                                                                            Sequence 3337
                  UNIV
                              号
                                                          Antibodies
                              Barnwell
                                                                                                                                                             Match
                 _
                 (UYNY
                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                      g
ò
                                                                                                                                                                                                a
                                                                                                                                                                                                           οy
                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                         qq
                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                          QQ
                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                             ογ
                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                                                                                                                            ò
```

1020 1500 720 780 780 840 900 900 960 ctggcqatttggaagcaggggaaagcaactggcgatttggaagcaggggaagaagctggtg cagaatctccccgaggaagtagaattagtattagatgaagaggcaactgaagaagaatcaa gagaagcgttagtagcagtgccagtagtggccgaaccggtagaagtagtgactcctgctc acacagaagatagttcagctgatggagcagaaaaagtacatgttcctgctcaagaaaatg acacagaagatagttcagctgatggagcagaaaaagtacatgttcctgctcaagaaaatg cgcaagtaccagcggaagaattagatgccactccagaggatgacttcgcattagatgtta cgcaagtaccagcggaagaattagatgccactccagaggatgacttcgcattagatgtta cggaagtgggaccaacggaaggaccaaccgaagaattagatgccactccagaggatg gatttogoattagacgaaactgcagaaggagaaacagaagaaacgtagagggagaaa agggagaagaagctgcagaaggagaagaagaagttagaggcaactccagaggatgacttcc 

m

80	1860 1860	1920 1920	1980 1980	2040	2100	2160 2160	2220	2280	2340 2340	2400	2460	2520 2520	2580 2580	2640 2640	2700	2760 2760	2820 2820
ggatcctgatgcaggagaggctgtaacagtaccatcaaaggaagcacctgtacaagtac 	agtggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaactccaagagg 	cgatttcgaattagaaggaactgcagaagctccagaggaagga	aqaaggagaaccaacggaagaagagccaagagaaggagagaccaacagaaggaaagtgc 	agaagaagtaattagaggcaactccagaggacgatttcgaattagaagaaccaacaggag 	agaagtagaagaaaccgtagaggcgaagaactgcagaaggagagaagtggaagagg 	acctgcagaagtagaagtggaagaggtacctgcagaagtagaagtggaagagg 	accagaagtagaagtacccgcagaagtagaagtagaagtggaaggtaccagaag 	agtggaagagtaccagaagaagtggaagagtaccagaagaagtggaagagtaccag 	agaagtggaagaagtggaagaagtagaagtagaggtaccagcggtagtagaagtag 	agtaccagcggtagtagaagaagagtgccagaagaagtagaagaagaagaagaagagg 2 	agaaccagtagaggaagaagatgtattacaattagtaataccatcggaagaagatatac 	attagacaaaccaaagaaagacgaattaggctctggaattttatctatc	ctaccaagacgttccaaaggaatttatggaagaagaagaagaaactgcagtgtatccat	gaaaccagaagattttgcaaaggaagattcacaatctacagaatggctcacattcatt	aggoctagaaggogactgggaacgattagaagtgagottaaataaggotagagaaagat : 	gatggaacaaagaataaagaatgggctggctggcttcgcttaattgaaaataaat	agaatatagtcaaatttcaacaaaaggaaaggacccagctggtttgagaaaacgagagt ; 
4 4 1	1801 c	1861 a   1861 a	1921 g	1981 c	2041 a	2101 t 2101 t	2161 ta       2161 ta	2221 a 1 2221 a	2281 a	2341 a     2341 a	2401 a   2401 a	2461 a   2461 a	2521 a   2521 a	2581 t 1 2581 t	2641 a       2641 a	2701 g   2701 g	2761 c   2761 c
op oy	6 G	oy da	oy Og	Oy Op	Oy Op	Oy Dp	9 9	oy da	oy op	Oy Dp	oy Dp	oy Op	Oy Dp	op Op	Oy Dp	Oy Dp	Oy Dp

```
2940
                                         3000
                                                   3000
                                                             3060
                                                                       3060
                                                                                                                           3241 cgcctaaccaaggaagaatggaatcaatttgttaatgaaataaaagtttgaattatagaa 3300
                                                                                                                                                      tgtcacaatttgaaaacaagaaaaccaaagaatggttaatgaatcactggaaaagaacg
                                               ds.
                                                                                                                                                                                                                                         DNA encoding a secreted blood-stage protein called PvESP-1.
                                                                                                                                                                                                                                                  Erythrocyte secreted protein-1; PvESP-1; malarial antigen; blood-stage protein; malaria; monoclonal antibody 1D11G10;
                                                                                                                                                                    a
"contains l intron"
                                                                                                                                                                                                                                                                            Location/Qualifiers
1.3197
4/tag= a
//tag= b
//tag= b
//tag= c
//number= 1
231.3194
//tag= d
//tag= d
//tag= d
                                                                                                                                                                                                         BP.
                                                                                                                                                                                                         AAX15174 standard; DNA; 3337
                                                                                                                                                                                                                                                                                                                                                                           96US-0719822
                                                                                                                                                                                                                                                                                                                                                                                     93US-0072610
                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                   Plasmodium vivax.
                                                                                                                                                                                                                                                                                                                                                                           30-SEP-1996;
                                                                                                                                                                                                                              28-APR-1999
                                                                                                                                                                                                                                                                                                                                                                                     02-JUN-1993;
                                                                                                                                                                                                                                                                                                                                                       US5874527-A
                                                                                                                                                                                                                                                                                                                                                                 23-FEB-1999
                                                                                                                                                                                                                   AAX15174;
                                                                                                                                                                                                                                                                                                                  intron
                                                                                                                                                                                              2
                                        2941
                    2881
                                                                                                                                                                                                                                                                                                                                   exon
                                                                                                                                                                                                                                                                                                   exon
                                                                                                                                                                                                    AAX15174
                                                                                                                                                                                                                                                                             Key
        g
                                                g
                                                                     g
                                                                                          g
                                                                                                               g
                                                                                                                                      g
                                                                                                                                                          Dp
                                                                                                                                                                               g
                                                                                                                                                                                                          ò
                             g
                                       ò
                                                             οy
                                                                                οy
                                                                                                      δ
                                                                                                                           ò
                                                                                                                                                ò
                                                                                                                                                                     ò
```

```
;
0
                                                                                                                                            The present sequence encodes a C-terminal erythrocyte secreted protein-1 (PVESP-1) of Plasmodium vivax. PVESP-1 is a malarial antigen which is a secreted blood-stage protein present in detectable amounts in biological samples from individuals infected with P. vivax. The protein comprises an epitope not present in other Plasmodium species that cause malaria in humans, and is bound by monoclonal antibody 1DIGIO. The peptide antigen can be used in immunoassays for diagnosis of malaria caused by P. vivax and/or can be used to produce antibodies for use in such immunoassays.
                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                009
                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                 ttttgcttttcttttaattcatgcttcaacagtaagataaaaataatctataaaaactgc 120
                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                         9
                                                                                                   caused
                                                                                                                                                                                                                                                                                                                         tatatatacatatatattcataagtggcatttgtgaattgcgatcatttaaatttacgta
                                                                                                                                                                                                                                                                                                                                                                                                                   aagaagctggcgatatggaagcaggggaagaagctggtgatttggaagcaggggaagaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aattagaagaaggaaaattttgatgagaattcaggtgatgatgaaactcttttagatgcta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               aaacgttagatggaggtgaatcattaggagaggtttccactgaagatatggaaacagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      atggctcaacagatgatacggaaacagaaagaaggactacctggtgatatggaaggagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cccccgaagatgactttgccttaacagatttgccaattgaagacgatgaggaagtcaacg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 aagaagctggcgatatggaagcaggggaagaagctggtgattttggaagcaggggaagaaa
                                                                                                                                                                                                                                                                                  Length 3337;
                                                                                                                                                                                                                                                                                                     ;
                                                                                                   malaria
                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                     other;
                                                                                                  oţ
                                                                                                                                                                                                                                                                                  20;
                                                                                                                                                                                                                                                     T; 0
                                                                                                                                                                                                                                                                                                     0;
                                                                                                  diagnosis
                                                                                                                                                                                                                                                                                  DB
                                                                                                                                                                                                                                                     691
                                                                                                                                                                                                                                                                            100.0%; Score 3337;
1larity 100.0%; Pred. No. 0;
Conservative 0; Mismatches
                                                                                                                                                                                                                                                     .;
ö
                                                                                                  - for
                                                                                                                                                                                                                                                     875
                                                                                                                                23pp; English
                                                                                                                                                                                                                                                     BP; 1304 A; 467 C;
                                                                                                  antigen
95US-0478417.
                             NEW YORK STATE
                                                                                                  Plasmodium vivax peptide
                                                                                                                                Example 4; Fig 5A-C;
                                                                    WPI; 1999-180063/15
                                                                                                              Plasmodium vivax
                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 3337; Conserv
                                                                              P-PSDB; AAW97039
                                                                                                                                                                                                                                                     Sequence 3337
                             UNIV
37-JUN-1995;
                                                 χ
                                                 Barnwell
                             (UYNY)
                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
g
                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                     οy
                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                            QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ογ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              q
```

099

ctggcgatttggaagcaggggaagaaactggcgatttggaagcaggggaagaagctggtg

601

ò

1500 1080 1260 1380 840 720 780 780 840 900 1441 agggagaagaagctgcagaaggagaagaagaagttagaggcaactccagaggatgacttcc gagaagcgttagtagcagtgccagtagtggccgaaccggtagaagtagtgactcctgctc gagaagcgttagtagcagtgccagtagtggccgaaccggtagaagtagtgactcctgctc ataacgatttaacgtatgcagacattacatcctttgagccattatttaaacaaatcctca ttgatcatattaaaagatttcgagccactattcgaacaaattgtgggggggtactgctaaac atgttacgggacaagaattgccaatgaaacctgtaccattaccagtggcagaagagcccg cgcaagtaccagcggaagaattagatgccactccagaggatgacttcgcattagatgtta cagaatctcccgaggaagtagaattagtattagatgaagaggcaactgaagaagaatcaa cggaagtgggaccaacggaagaagaccaaccgaagaattagatgccactccagaggatg cggaagtgggaccaacggaagaaggaccaaccgaagaattagatgccactccagaggatg agcctgtcaaaccaatggtcgctccaacggcagatgaaactttattcgttgatatcttag cagaagaagctgcagaaggagaagtatcagaagaaactccagaaggagaagaagttag 901 1021 1021 1081 1081 1141 1141 1201 1261 1261 1321 1321 1381 1381 1441 1501 1501 1561 1561 1621 1621 1681 199 841 1201 781 781 841 196 196 601 721 721 901 661 g g qq  $^{\circ}$ QQ δy g δy g ò рp ò Dp ŏ Db δ QQ δ Db ò qq õ qq ò q ò a δ Db ò g δ ò QΥ

S

us-09-667-130-1.rng

Mon

```
q
                                                                                                                qq
                                                                                                                                                    qq
                                                                                                                                                                                      qq
                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                   δy
                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                                           ογ
                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                              qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 q
                          Qγ
                                          qq
                                                            οy
                                                                                                 ŏ
                                                                                                                                    Qγ
                                                                                                                                                                      οy
                                                                                                                                                                                                          οy
                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qγ
                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                           The invention relates to novel species-specific Plasmodium vivax malarial peptide antigens which are proteins or fragments of proteins secreted into the plasma of a susceptible mammalian host after infection, and to monoclonal or polyclonal antibodies directed against those antigens. The peptide antigens, monoclonal antibodies, and/or polyclonal antibodies are useful in assays to diagnose malaria, and to determine which P. vivax species is responsible for the infection. The present sequence encodes P. vivax erythrocyte secreted protein-1 (PvESP-1), a secreted species specific blood stage antigen provided in the invention.
                                                                                                        New species-specific Plasmodium vivax malarial peptide antigens,
proteins or fragments secreted into the plasma of susceptible mammalian
host after infection, useful for diagnosing malaria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       480
                                                                                                                                                                                                                                                                                                                                                                 ttttgcttttcttttaattcatgcttcaacagtaagataaaaataatctataaaaactgc 120
                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                         gaattcoggtaaagtaacaactatggtttcgtatctatatataaccttactaatttatc
                                                                                                                                                                                                                                                                                                                                                                                                                                                 aattggaaaatgcttctgatgatgttgtagaggtggaggatccttcaaacgacggtttag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ccccgaagatgactttgccttaacagatttgccaattgaagacgatgaggaagtcaacg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ccccqaagatgactttgccttaacagatttgccaattgaagacgatgaggaagtcaacg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         aaacgttagatggaggtgaatcattaggagggtttccactgaagatatggaaacagaag
                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                           Length 3337;
                                                                                                                                                                                                                                                                                                           0; Indels
                                                                                                                                                                                                                                                                other;
                                                                                                                                                                                                                                                                                           22;
                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                ÷
                                                                                                                                                                                                                                                                                           DB
                                                                                                                                                                                                                                                                                         s; Score 3337; I
s; Pred. No. 0;
.0; Mismatches
                                                                                                                                                                                                                                                               691
                                                                                                                                                                                                                                                               Sequence 3337 BP; 1304 A; 467 C; 875 G;
                                                                                                                                             Example 4; Fig 5; 23pp; English.
                                                                                                                                                                                                                                                                                           100.0%;
       93US-0072610.
95US-0478417.
96US-0719822.
                                            STATE
                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 100.
Matches 3337; Conservative
                                            NEW YORK
                                                                              2001-335068/35
                                                                                         P-PSDB; AAG66528
        02-JUN-1993;
07-JUN-1995;
30-SEP-1996;
                                           (UYNY ) UNIV
                                                             Barnwell JW
                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
g
                                                                                                                                                                                                                                                                                                                               ç
                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                    õ
                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          q
```

9

aagaagctggcgatatggaagcaggggaagaagctggtgatttggaagcaggggaagaaa

541

ò

```
1500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1680
                                                                                                                                                                                                                                                          1020
                                                                                                                                          840
                                                                                                                                                             840
                                                                                                                                                                                                                    096
        900
                           099
                                              9
                                                                720
                                                                                   720
                                                                                                      780
                                                                                                                       780
                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                acacagaagatagttcagctgatggagcagaaaagtacatgttcctgctcaagaaaatg
                                                                                                                                                                                        agcetgtcaaaccaatggtcgctccaacggcagatgaaactttattcgttgatatcttag
atttggaagcaggggaagaaactggcgatttggaagcaggggaagaagctggagatgcgg
                                                                            acacagaagatactgatggaggaggagaaaaagtacatgttcctgctcaagaaaatg
                                                                                                                                                                                 tacaacctgccgatagtaatgatgccctctttggaagtattttggataaagatataattt
                                                                                                                                                                                                                                                           atgttacgggacaagaattgccaatgaaacctgtaccattaccagtggcagaagagcccg
                                                                                                                                                                                                                                                                                                cycaagtaccaycygaagaattayatyccactccayaygatyacttcycattagatytta
                                                                                                                                                                                                                                                                                                                                                                                                                                  ctggcgatttggaagcaggggaagaaactggcgatttggaagcaggggaagaagctggtg
                                                                                                                                                                                                                                                                                                                                                                                                                gatttcgcattagacgaaactgcagaaggagaaacagaagaaacgtagagggagagaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                     cagaaqaaqctgcagaaggagaagtatcagaagaaactccagaaggagaagaagagttag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ctgcagaaggaagaagaaccgtagaggaagaagaagaaaccgtagaggagaagaaaccgtag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       agggagaagaagctgcagaaggagaagaagaagttagaggcaactccagaggatgacttcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          agggagaagaagctgcagaaggagaaagaagttagaggcaactccagaggatgacttcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1141
                                                                                                                                                                                                                                                                                                                                                                                            1141
                                                                                                                                                                                                                                                                                                                                                                                                                                 1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1441
                                                                                                                                                             781
                                                                                                                                                                                                  841
                                                                                                                                                                                                                                                                                                                  1021
                                                                                                                                                                                                                                                                                                                                     1081
                                                                                                                                                                                                                                                                                                                                                      1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1561
                                              601
                                                                                                                       721
                                                                                                                                                                                                                                       901
                                                                                                                                                                                                                                                                                               1021
                                                                                                                                                                                                                                                                                                                                                                                                               1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                    1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1621
         541
                                                                 661
                                                                                    661
                                                                                                      721
                                                                                                                                           781
                                                                                                                                                                                                                     901
                                                                                                                                                                                                                                                          196
                                                                                                                                                                                                                                                                             961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1561
                           601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
```

```
2000DE-1013847.
2000DE-1019058.
2000DE-1019173.
2000DE-1032529.
2000DE-1043826.
                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                         cancer; tumour; cpG dinucytosine methylation; ds
                                                                                                                                                                                                                                                                                  ပဲ
                                                                                                                                                                                                                                                                           Ä
                                                                                                                                                                                                                                                                                  Piepenbrock
                                                                                                                                                                                                                                                                           EPIGENOMICS
                                                                                                                                                                                                                            WO200168912-A2
                                                                                                                                                                                                      tumour
                                                                                                                                                                                                                                                   15-MAR-2000;
06-APR-2000;
07-APR-2000;
30-JUN-2000;
                                                                                                                                                                                                                                            15-MAR-2001;
                                                                                                                                                                                                                     sapiens
                                                                                                                                                                                                                                                                  01-SEP-2000;
                                                                                                                                                                                      18-DEC-2001
                                                                                                                                                                                                                                    20-SEP-2001
                                                                                                                                                                       AAS46299
                                                                                                                                                                               AAS46299
                                                                                                                                                                                                                                                                           (EPIG-)
                                                                                                                                                                                                                                                                                  À
                                                                                                                                                                                              Tumour
                                                                                                                                                                                                      Human;
                                                                                                                                                                                                                     Ношо
                                                                                                                                                                                                                                                                                  olek
            2761
                          2821
                                  2881
                                          2881
                                                 2941
                                                         2941
                                                                        3001
                                                                                       3061
                                                                                               3121
                                                                                                              3181
                                                                                                                      3181
                                                                                                                             3241
                                                                                                                                     3241
                                                                                                                                                    3301
    2761
                   2821
                                                                 3001
                                                                                3061
                                                                                                       3121
                                                                                                                                             3301
                                                                                                                                                               g
                  οy
                        g
                                δ
                                        Dp
                                                Qy
Db
                                                               Oy
Dp
                                                                              ò
                                                                                     g
                                                                                               ò
                                                                                                     qq
                                                                                                             ò
                                                                                                                     qq
                                                                                                                             ò
                                                                                                                                    Op
                                                                                                                                            ò
                                                                                                                                                   qq
    ò
                                                                                   2040
                                                                                                  2100
                                                                                                                                                                       2340
                                                                                                                                                                                              2460
                                                                                                                                                                                                                                            2640
                                                                                                                                                                                                                                                   2640
                                                                                                                  2160
                                                                                                                                                               2340
                                                                                                                                                                               2400
                                                                                                                                                                                      2400
                                                                                                                                                                                                                    2520
                                                                                                                                                                                                                                    2580
                       1800
                                                                                                           2100
                                                                                                                                         2220
       aaggcctagaaggcgactgggaacgattagaagtgagcttaaataaggctagagaaagat
                                                                                                                                                                                                                                                                              tacctgcagaagtagaagaagtggaagaggtacctgcagaagtagaagtggaagagg
                                                                                                                                                                                                                                           aaggcctagaaggcgactgggaacgattagaagtgagcttaaataaggctagagaaagat
                                                                                                                                                                                                                                                                           agcotytcaaaccaatggtcgctccaacggcagatgaaactttattcgttgatatcttag
                                                                                                                          tacctgcagaagtagaagaagtggaagagtacctgcagaagtagaagtggaagagg
                              1741
                                                                                                          2041
                                             1801
                                                     1861
                                                            1861
                                                                    1921
                                                                           1921
                                                                                   1981
                                                                                           1981
                                                                                                  2041
                                                                                                                         2101
                                                                                                                                 2161
                                                                                                                                        2161
                                                                                                                                               2221
                                                                                                                                                       2221
                                                                                                                                                               2281
                                                                                                                                                                      2281
                                                                                                                                                                              2341
                                                                                                                                                                                     2341
                                                                                                                                                                                                     2401
                                                                                                                                                                                                                    2461
                                                                                                                                                                                                                            2521
                                                                                                                                                                                                                                   2521
                                                                                                                                                                                                                                           2581
                                                                                                                                                                                                                                                  2581
                                                                                                                                                                                                                                                           2641
                                                                                                                                                                                                                                                                  2641
                                                                                                                                                                                                                                                                          2701
                                                                                                                                                                                                                                                                                  2701
1621
       1691
                                      1801
                                                                                                                  2101
                                                                                                                                                                                             2401
                                                                                                                                                                                                            2461
               1681
엄
              g
                                                                                         g
                                                                                                                                      g
                                                                                                                                                     g
                                                                                                                                                                    g
                                                                                                                                                                             o
o
                                                                                                                                                                                                  Q
                                                                                                                                                                                                                  QQ
                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                 g
       ò
                      ò
                            Q
                                     9 9
                                                          QQ
                                                                 õ
                                                                         q
                                                                                 ò
                                                                                                o
P
                                                                                                                9 b
                                                                                                                                             õ
                                                                                                                                                             õ
                                                                                                                                                                                            ò
                                                                                                                                                                                                          ò
                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                         õ
                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                         ò
```

3060 3120 3300 SNP; ggagcgacgagaaatggaaaaaatggtttaaagcagaagtcaaatcccaaattgattcac cytostatic; polymorphism; aacggggttatggttctgaatcatttgaagttatgaccacatcaaaattattaaatgtgg suppressor gene; oncogene; antitumour;
r; CpG dinucleotide; single-nucleotide p mod1fied chemically suppressor gene derived 2001WO-EP02955

₩.

us-09-667-130-1.rng

```
RESULT
οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                           q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The invention relates to a nucleic acid comprising a sequence of 18 bases, of a segment of chemically pretreated DNA (CP DNA) e.g. with bisulphite, of genes associated with tumour suppression and concogenes having a sequence taken from 536 (actually 533 since numbers 408, 458 and 500 are missing from the sequence listing) sequences complementary to (5s). The nucleic acid may be a ceptide nucleic acid-oligomer (PNA) of at least 9 nucleotides and may form part of a set of probes for detecting the cytosine methylation state and/or single nucleotide polymorphisms and also to be used in an array for analysing diseases associated with CpG dinucleotides e.g. cancers and tumours. The probes can also be used in a method for ascertaining genetic and/or epigenetic parameters for the diagnosis and/or therapy of existing diseases or the predisposition to specific diseases, by analysing cytosine methylations. The praemeters may be compared to another set of genetic and/or epigenetic parameters may be compared to another set of genetic and/or epigenetic parameters. The praemeters of the are disadvantageous to patients. The present sequence is one of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .;
0
                                     Fragments of chemically modified genes associated with tumour suppressor genes and oncogenes, useful in designing primers and probes for analysing diseases associated with cytosine methylation state e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           antiarteriosclerotic; antianaemic; cytostatic; nootropic; neuroprotective; anti-HIV; anticonvulsant; ophthalmological; antirhemmatic; antiarthritic; antidabetic; antipsoriatic; antinflammatory; cancer, eye disease; arteriosclerosis; anaemia; acute myeloid leukaemia; Alzheimer's disease; AIDS; epilepsy; neurofibromatosis; rheumatoid arthritis; psoriasis; bowel disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human; immune system disease; cytosine methylation; antiasthmatic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ó
                                                                                                                                                                                                                                                                                                                                                                          genomic sequences derived from tumour suppressor genes and
                                                                                                                                                                                                                                                                                                                                                                                                                 the printed specification, but was obtained in electronic mat directly from WIPO at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 6862;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; DB 22; Lens
io. 0.0058; ndels
                                                                                                                                                                                                                                                                                                                                                                                                       Note: The sequence data for this patent did not form part
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 6862 BP; 1278 A; 518 C; 2176 G; 2890 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human immune system associated gene SEQ ID NO: 195.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   853 gaaaaaaattttttttttttttttttttttt 885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      192 gaaaaaaatttttttttttttttttttttgtt 224
                                                                                                                                                                                                                                                                                                                                                                                                                                              ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 33;
Pred. No.
                                                                                                         Claim 1; SEQ ID No 21; 27pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1.0°,
100.0%; Pre-
0; ?
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABL32222 standard; DNA; 6862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        02-JUL-2001; 2001WO-EP07537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          26-MAR-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              33; Conservative
             WPI; 2001-602752/68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO200200928-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              03-JAN-2002.
                                                                                                                                                                                                                                                                                                                                                                                          oncogenes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABL32222;
                                                                                cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ഗ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                dene;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABL32222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                οp
```

```
The present invention provides a number of human immune system associated genes which are modified by the methylation of cytosines. The sequences can be used in the diagnosis and treatment of immune system disorders, including eye diseases such as retinopathy, neovascular glaucoma and macular degeneration, arteriosclerosis, anaemia, cancer, acute myeloid retukaemia, Alzheimer's disease, Alzb. epilepsy, neurofibromatosis, rheumatoid arthritis, psoriasis and inflammatory/ulcerative bowel diseases. The present sequence is a gene of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; Gene regulation-associated gene; severe combined immunodeficiency; cardiac damage; inflammatory response; Haemophilia; Werner syndrome; asthma; HDR syndrome; conqenital heart defect; Saethre-Chotzen syndrome; renal disease; Preeclampsia; cardiac allograft vascular disease; colorectal cancer; thyroid cancer; casophageal cancer; ds; tumour; immunostimulant; cardiant; antiinflammatory; coagulant; antiasthmatic; nephrotropic; gynecological; anti-tumour; immunosuppressive; cytostatic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                         Nucleic acid comprising fragment of chemically modified gene, useful for diagnosis and treatment of diseases associated with abnormal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 6862;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human gene regulation-associated gene oligonucleotide #36.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 6862 BP; 1278 A; 518 C; 2176 G; 2890 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Indels
                                                                                                                                                                                                                                                                                                                                                                                              Claim 1; SEQ ID NO 195; 32pp + Sequence Listing; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 24;
0.0058;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%; Preu. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ## 853 gaaaaaaatttttttttttttttttttgtt 885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 192 gaaaaaattttttttttttttttttttttgtt 224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1.0%; Score 33;
100.0%; Pred. No.
                                                                                                                                                       Berlin K;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Berlin K;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAS61081 standard; DNA; 6862 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000DE-1019058.
2000DE-1019173.
2000DE-1032529.
2000DE-1043826.
30-JUN-2000; 2000DE-1032529.
01-SEP-2000; 2000DE-1043826.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  06-APR-2001; 2001WO-EP03968.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 1.0%
Best Local Similarity 100.0
Matches 33; Conservative
                                                                                                                                                    Olek A, Piepenbrock C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Olek A, Piepenbrock C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (EPIG-) EPIGENOMICS AG
                                                                                        (EPIG-) EPIGENOMICS AG
                                                                                                                                                                                                                                                                                                                                        cytosine methylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2002-017470/02.
                                                                                                                                                                                                             WPI; 2002-130909/17.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO200177375-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        06-APR-2000;
07-APR-2000;
30-JUN-2000;
01-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      29-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          18-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAS61081;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAS61081
```

ó;

6

```
The invention relates to human polynuclectides (AAI79941-AAI93841) and the encoded proteins (AA000010-AA013910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polyneptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, haematopolesis regulating activity, tissue growth factor activity, immunomodulatory activity and activity and may be useful in the diagnosis and/or treatment of cancer, leukaemia, nervous system disorders, arthritis and
                                                                                                                                                                                                                                                                                                          Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to human breast cancer expressed polynucleotides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New peptide useful as a marker for the diagnosis of breast cancer
                                  lagnosing and treating e.g. leukaemia, inflammation and immune
                   Isolated nucleic acids and polypeptides, useful for preventing
                                                                                      Claim 1; SEQ ID NO 2230; 1399pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 30; DB 22; Length 334;
Pred. No. 0.11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human breast cancer expressed polynucleotide 3844.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; breast cancer; cell marker; cytostatic; ss.
                                                                                                                                                                                                                                                                                                                                                                                   Sequence 334 BP; 97 A; 67 C; 88 G; 75 T; 7 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Pred. No. 0.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (MILL-) MILLENNIUM PREDICTIVE MEDICINE INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Wang Y, Steinmann K;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 1; Page 702; 3695pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000US-0189167.
2000US-0192099.
2000US-0193480.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAL11387 standard; cDNA; 337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10-JAN-2001; 2001WO-US00798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2000US-0205230
2000US-0211315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0176077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000US-0220534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              07-DEC-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity 100.
Matches 30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2001-451856/48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Xu Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO200151628-A2.
                                                                                                                                                                                                                                                                                              inflammation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24-MAR-2000;
29-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  09-JUN-2000;
25-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           14-JAN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               14-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15-MAY-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      19-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Lillie J,
                                                      disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAL11387;
                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAL11387/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
   ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18 bases of a chemically pretreated gene associated with gene regulation selected from 43 known genes (or complementary sequences). The chemical pretreatment converts cytosine bases unmethylated at the 5-position to uracil or another base with hybridisation behaviour dissimilar to cytosine, to enable analysis of cytosine methylations. The DNA sequences, oligomers (or sets/arrays) and method are useful in the disquests of diseases (or predisposition to diseases) associated with gene regulation and in therapy of such diseases) associated with gene regulation methylation patterns of such genes, kits are provided. They are especially useful in disquesis and therapy of e.g. severe combined immunodeficiency disease, cardiac disorders, haemophilla, solid tumours and cancer, Werner syndrome, casthma, HDR syndrome, Saethre-Chotzen syndrome, renal disease, preeclampsia, graft versus-host disease. The present sequence is a sequence and util the human gene regulation-associated genes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; cytokine; cell proliferation; cell differentiation; gene therapy; vaccine; peptide therapy; stem cell growth factor; haematopoiesis; tissue growth factor: hmmunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation; ss.
New nucleic acid sequences from chemically modified genes associated with gene regulation, useful for analysing cytosine methylations for diagnosis and therapy of diseases e.g. severe combined immunodeficiency
                                                                                                                       comprising at least
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                  Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 6862;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 6862 BP; 1278 A; 518 C; 2176 G; 2890 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                     The invention relates to 224 nucleic acid sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 24;
0.0058;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1.0%; Score 33; DB 100.0%; Pred. No. 0.C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               192 gaaaaaaattttttttttttttttttttgtt 224
                                                                                     Claim 1; SEQ ID No 37; 26pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human polynucleotide SEQ ID NO 2230.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAI82170 standard; cDNA; 334 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Liu C, Drmanac RT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     26-FEB-2001; 2001WO-US04927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      28-FEB-2000; 2000US-0515126
18-MAY-2000; 2000US-0577409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      06-NOV-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ouery Match
Best Local Similarity 100.(
watches 33; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2001-514838/56.
P-PSDB; AA002239.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (HYSE-) HYSEQ INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO200164835-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   07-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             rang YT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AA182170;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAI82170/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
```

ö

Gaps

ö

0; Indels

Pred. No. 0.11;

```
ő
(AALO7544-AAL26789) and methods of assessing whether a patient is afflicted with breast cancer by examining the correlation between the expression of certain markers and the cancerous state of breast cells. The polynucleotides and encoded polypeptides are potential markers for detecting, diagnosing, monitoring, characterising treating and potentially preventing breast cancer. The polynucleotides and encoded polypeptides are also useful for isolating compounds with cytostatic activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to human breast cancer expressed polynucleotides (AAL07544-AAL26789) and methods of assessing whether a patient is afflicted with breast cancer by examining the correlation between the expression of certain markers and the cancerous state of breast cells. The polynucleotides and encoded polypeptides are potential markers for detecting, diagnosing, monitoring, characterising treating and potentially preventing breast cancer. The polynucleotides and encoded polypeptides are also useful for isolating compounds with cytostatic activity.
                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New peptide useful as a marker for the diagnosis of breast cancer
                                                                                                                                                                                                                           ;
0
                                                                                                                                                                                             DB 22; Length 337; 0.11;
                                                                                                                                                                                                                          0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                         cancer expressed polynucleotide 12743.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; breast cancer; cell marker; cytostatic; ss.
                                                                                                                                                Sequence 337 BP; 119 A; 68 C; 83 G; 67 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BP; 124 A; 75 C; 91 G; 73 T; 0 other;
                                                                                                                                                                                   0.9%; scc.
100.0%; Pred. No. c.
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (MILL-) MILLENNIUM PREDICTIVE MEDICINE INC.
                                                                                                                                                                                                                                                      Steinmann K;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 1; Page 2251; 3695pp; English.
                                                                                                                                                                                                                                                                                                                                                                AAL20286 standard; cDNA; 363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000US-0189167.
2000US-0192099.
2000US-0193480.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2000US-0205230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2000US-0211315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0220534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10-JAN-2001; 2001WO-US00798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2000US-0176077
                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Xu Y, Wang Y,
                                                                                                                                                                                                                          30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2001-451856/48
                                                                                                                                                                                             Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO200151628-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24 - MAR-2000;
29 - MAR-2000;
15 - MAY-2000;
09 - JUN-2000;
25 - JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human breast
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 363
                                                                                                                                                                                                                                                                                                                                                                                                                         07-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14-JAN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Lillie J,
                                                                                                                                                                                                                                                                                                                                                                                            AAL20286;
                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                AAL20286/c
                                                                                                                                                                                                                                                                                                                                   RESULT
                                                                                                                                                                                                                                                                                                                                                                                            අ
         8888888888888
                                                                                                                                                                                                                                                          ò
```

Length 363;

DB 22;

Score 30;

0.9%;

Query Match

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invention relates to human polynucleotides (AAI79941-AAI93841) and the encoded proteins (AA000010-AA013910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynucleotides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, mematopoiesis regulating activity, tissue growth factor activity, immunomodulatory activity and activin/inhibin activity and may be useful in the diagnosis and/or
                                                                                                                                                                                                                                                                                                     Human; cytokine; cell proliferation; cell differentiation; gene therapy; vaccine; peptide therapy; stem cell growth factor; haematcopolesis; tissue growth factor; immunomodulatory; cancer; leukaenia; nervous system disorders; arthritis; inflammation; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               treatment of cancer, leukaemia, nervous system disorders, arthritis and inflammation.
                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Isolated nucleic acids and polypeptides, useful for preventing diagnosing and treating e.g. leukaemia, inflammation and immune
                             ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ·
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 1; SEQ ID NO 10099; 1399pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0.9%; Score 30; DB 22; Length 392; 00.0%; Pred. No. 0.11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 392 BP; 173 A; 65 C; 67 G; 86 T; 1 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .;
0
                             ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Pred. ...
                               Mismatches
                                                                              357 TTTTTTTTTTTTTTTTTTTTTTTTTTGTCTACA 328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       130 GAAAAAATTTTTTTTTTTTTTTTTTTTT 101
                                                                                                                                                                                                                                                                       Human polynucleotide SEQ ID NO 10099.
                                                               ttttttttttttttttttttttgttctaca
100.08; Pic
                                                                                                                                                                           AAI90039 standard; cDNA; 392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Drmanac RT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2000US-0515126.
2000US-0577409.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26-FEB-2001; 2001WO-US04927
                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ouery Match 0.9
Best Local Similarity 100.
Matches 30; Conservative
              Best Local Similarity 100.
Matches 30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2001-514838/56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (HYSE-) HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Liu C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          P-PSDB; AA010108
                                                                                                                                                                                                                                                                                                                                                                                                                   WO200164835-A2.
                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18-MAY-2000;
                                                                                                                                                                                                                                         06-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                 07-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Tang YT,
                                                                                                                                                                                                         AAI90039;
                                                             200
                                                                                                                                                            AAI90039,
                                                                                           q
                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
```

```
Sequences AAS45296-AAS4550 represent chemically pretreated genomic DNA implecules associated with the cell cycle and specific PCR primers of the invention. The sequences are useful for detecting the methylation state of all CPG dinucleotides in a sequence and therefore for analysing associated diseases. By analysing cytosine methylations in the pretreated DNA, genetic and/or epigenetic parameters for the diagnosis and therapy of existing diseases or the predisposition to specific diseases can be ascertained. The parameters may be compared to another set of genetic and/or epigenetic parameters, the differences serving as basis for diagnosis and/or prognosis events which are disadvantageous to patients. The sequences of the invention are useful for the diagnosis and therapy of HIV infection, neurodegenerative disorders, graft-versus-host disease, affingly, glomerular disease, Lewy body disease, arthritis,
human immunodeficiency virus; neurodegenerative disorder; solid tumour; graft-versus-host disease; glomerular disease; Lewy body disease; cancer; arthritis; arteriosclerosis; anti-HIV; neuroprotective; antiarthritic;
                                                immunosuppressive; antitumour; cytostatic; antiarteriosclerotic; ds;
                                                                                                                                                                                                                                                                                                                                                                                                                                Designing primers and probes for analysing diseases associated with cytosine methylation state e.g. arthritis, cancer, aging, arteriosclerosis comprising fragments of chemically modified genes associated with cell cycle -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human; immune system disease; cytosine methylation; antiasthmatic;
antiarteriosclerotic; antianaemic; cytostatic; nootropic;
neuroprotective; anti-HIV; anticonvulsant; ophthalmological;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0.9%; Score 30; DB 22; Length 8801;
100.0%; Pred. No. 0.072;
Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 8801 BP; 2344 A; 366 C; 2057 G; 4034 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human immune system associated gene SEQ ID NO: 1714.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 1; SEQ ID No 142; 28pp; English.
                                                                                                                                                                                                                                                                                                                                                                Berlin K;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ВР
                                                                                                                                                                                                                                           2000bE-1019058.
2000bE-1019173.
2000bE-1032529.
2000bE-1043826.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABL33741 standard; DNA; 8801
                                                                                                                                                                                              15-MAR-2001; 2001WO-EP02945.
                                                                                                                                                                                                                              2000DE-1013847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                Piepenbrock C,
                                                                                                                                                                                                                                                                                                                               (EPIG-) EPIGENOMICS AG
                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2001-602751/68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best_Local Similarity
Matches 30; Conserv
                                                                                                                               WO200168911-A2
                                                                                                                                                                                                                         15-MAR-2000;
06-APR-2000;
07-APR-2000;
30-JUN-2000;
01-SEP-2000;
                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26-MAR-2002
                                                                                                                                                               20-SEP-2001
                                                                 primer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABL33741;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                olek A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABL33741
ID ABL3
 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New isolated nucleic acid detection reagent for detecting 1000 or more genes from Drosophila and for elucidating cell signalling and cell-cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The invention relates to an isolated nucleic acid detection reagent capable of detecting 1000 or more genes from Drosophila. The invention useful in developmental biology and in elucidating cell signalling and cell-cell interactions in higher eukaryotes for the development of insecticides, therapeutics and pharmaceutical drugs. The invention discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chemically pretreated complementary DNA associated with cell cycle #71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cell cycle; human; CpG dinucleotide; cytosine methylation; HIV; aging;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                             Drosophila melanogaster expressed polynucleotide SEQ ID NO 23504.
                                                                                                                                                                         Drosophila; developmental biology; cell signalling; insecticide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 5856;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 1; SEQ ID NO 23504; 21pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 5856 BP; 1527 A; 1429 C; 1445 G; 1455 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 discloses genomic DNA sequences (ABL16176-ABL30511), exsequences (ABL01840-ABL16175) and the encoded proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0.9%; Score 30; DB 23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0.076;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%; Preu. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Myers EW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    195 aaaaattttttttttttttttttttttgtt 224
                                           ABLO9674 standard; cDNA; 5856 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAS45437 standard; DNA; 8801 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                PWD,
                                                                                                                                                                                                                                                                                                                              23-MAR-2001; 2001WO-US09231.
                                                                                                                                                                                                                                                                                                                                                             2000US-191637P
2000US-0614150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                Ľį
                                                                                                                                                                                            pharmaceutical; gene; ss
                                                                                                                                                                                                                             Drosophila melanogaster.
                                                                                                                                                                                                                                                                                                                                                                                                                                              Venter JC, Adams M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2001-656860/75.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ABB57737-ABB72072)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity
Matches 30; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                               (PEKE ) PE CORP NY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                P-PSDB; ABB65571
                                                                                                                                                                                                                                                          WO200171042-A2.
                                                                                                                                                                                                                                                                                                                                                             23-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                            11-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Interactions
                                                                                                            26-MAR-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18-DEC-2001
                                                                                                                                                                                                                                                                                             27-SEP-2001
                                                                             ABL09674;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAS45437;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12
             RESULT 11
ABL09674/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 1
AAS45437
                                                                            ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     XX DX CX XX
```

ö

Gaps

ö

Homo sapiens

dene;

03-JAN-2002

olek A,

```
The sequence is that of an oligonucleotide, I, which is able to form a triple helix with a duplex nucleic acid (dsNA) contg. a target sequence which comprises at least one pyrimidine tract, and at least one adjacent purine tract. It is useful for therapeutic or diagnostic control of gene expression, e.g. suppression of mRNA synthesis from a target gene. A specified application is targetting of RNA in the HIV-I genome. When appropriately labelled it may also be used as a probe. Attachment of cleavage agents caused permanent inactivation of the target by site-specific cleavage.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The oligomer comprises a non-thiolated (binding) homooligonucleotide region ( d(A)12 ) to promote the binding of the remaining portion of
                                                                                                                                                               New oligo:nucleotide(s) forming triple helix with target nucleic acid - contain purine and pyrimidine tracts in specific orientations, useful therapeutically or diagnostically e.g. for inactivating HIV RNA, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Compsn. contg. 5-thiolated (oligo-poly-)-nucleotide(s) - for treating HIV infection, AIDS and for preventing HIV-1 infection
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HIV; thiolation; reverse transcriptase; primer; inhibition;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 29; DB 14;
Pred. No. 0.33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Oligonucleotide specific for HIV proviral DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 32 BP; 8 A; 0 C; 0 G; 24 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Schinazi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 193 aaaaaaattttttttttttttttttttt 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 aaaaaaatttttttttttttttttttt 30
                                                                                                                                                                                                                                                                        Disclosure; Page 47; 101pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Disclosure; Page 11; 42pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0.9%; SCOL.
100.0%; Pre
0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ho YK, Aradi J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               91WO-US05919
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       90US-0568131
    92US-0826934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAQ25032 standard; DNA; 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (UYNY-) RES FOUND UNIV NEW
                                                                                      BH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                      Johnston
                                                                                                                          WPI; 1993-214172/26.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 1992-096567/12.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 homooligomer; ss
                                             (STRI ) SRI INT.
    21-JAN-1992;
                                                                                      Jayasena SD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15-AUG-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       16-AUG-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13-JUL-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO9203127-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        05-MAR-1992.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          29;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bardos TJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAQ25032;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAQ25032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The present invention provides a number of human immune system associated genes which are modified by the methylation of cytosines. The sequences can be used in the diagnosis and treatment of immune system disorders, including eye diseases such as retinopathy, neovascular glaucome and macular degeneration, arteriosclerosis, anaemia, cancer, acute myeloid leukaemia, Alzheimer's disease, AlDS, epilepsy, neurofibromatosis, rheumatoid arthritis, psoriasis and inflammatory/ulcerative bowel diseases. The present sequence is a gene of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Nucleic acid comprising fragment of chemically modified gene, useful for diagnosis and treatment of diseases associated with abnormal
antirheumatic; antiarthritic; antidiabetic; antipsoriatic; antinflammatory; cancer; eye disease; arteriosclarosis; aneemia; acute myeloid leukaemia; Alzhefiner's disease; AlDS; epilopsy; neurofibromatosis; rheumatoid arthritis; psoriasis; bowel disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    diagnostic; control; gene expresssion; mRNA synthesis suppression;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Purine; pyrimidine; tracts; intramolecular triplex; therapeutic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ch 0.9%; Score 30; DB 24; Length 8801; 1 Similarity 100.0%; Pred. No. 0.072; 30; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 8801 BP; 2344 A; 366 C; 2057 G; 4034 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 1; SEQ ID NO 1714; 32pp + Sequence Listing; German
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    971 gaaaaaaatttttttttttttttttt 1000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gaaaaaaatttttttttttttttttttt 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Triple helix forming oligonucleotide I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 91US-0808452
                                                                                                                                                                                                                                                     02-JUL-2001; 2001WO-EP07537
                                                                                                                                                                                                                                                                                         30-JUN-2000; 2000DE-1032529
01-SEP-2000; 2000DE-1043826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        92WO-US10792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAQ43973 standard; DNA; 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                            Piepenbrock C,
                                                                                                                                                                                                                                                                                                                                                        (EPIG-) EPIGENOMICS AG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cytosine methylation
                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2002-130909/17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                   WO200200928-A2.
```

28-OCT-1993

AAQ43973;

14

AAQ43973 RESULT

192 Matches

ó q 11-DEC-1992; 13-DEC-1991;

7

WO9312230-A

Synthetic.

24-JUN-1993

ö

Gaps

ö

13

us-09-667-130-1.rng

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invention relates to human polynuclectides (AAI79941-AAI93841) and the encoded proteins (AA000010-AA013910) that exhibit activity elating to eytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynucleotides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, hammacpoolesis regulating activity, tissue growth factor activity, immunomodulatory activity and activity inhibin activity and may be useful in the diagnosis and/or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human; cytokine; cell proliferation; cell differentiation; gene therapy; vaccine; peptide therapy; stem cell growth factor; haematopoiesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     treatment of cancer, leukaemia, nervous system disorders, arthritis and inflammation.
                                                                                                                                                                                        Gaps
the 5-thiolated oligonucleotide ( MdU_28 ) to a homopurine site of the viral genome via triple-helix formations. The oligo is used to in the treatment of HIV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Isolated nucleic acids and polypeptides, useful for preventing diagnosing and treating e.g. leukaemia, inflammation and immune
                                                                                                                                                                                      ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 1; SEQ ID NO 9851; 1399pp + Sequence Listing; English.
                                                                                                                                                   Length 40;
                                                                                                                                                                                      0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 325 BP; 132 A; 51 C; 79 G; 61 T; 2 other;
                                                                                                                                               Ouery Match

0.9%; Score 29; DB 13;
Best Local Similarity 24.1%; Pred. No. 0.33;
Matches 7; Conservative 22; Mismatches 0;
                                                                                           BP; 12 A; 0 C; 0 G; 28 U; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ftp.wlpo.int/pub/published_pct_sequences.
                                                        See also AAQ22624-27 and AAQ25017-Q25031.
                                                                                                                                                                                                                           193 aaaaaaattttttttttttttttttt 221
                                                                                                                                                                                                                                                              6 aaaaaauuuuuuuuuuuuuuu 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human polynucleotide SEQ ID NO 9851.
                                                                                                                                                                                                                                                                                                                                                           BP
                                                                                                                                                                                                                                                                                                                                                       AAI89791 standard; cDNA; 325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Liu C, Drmanac RT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   28-FEB-2000; 2000US-0515126
18-MAY-2000; 2000US-0577409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                26-FEB-2001; 2001WO-US04927
                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2001-514838/56.
P-PSDB; AAO09860.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (HYSE-) HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO200164835-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens.
                                                                                       Sequence 40
                                                                                                                                                                                                                                                                                                                                                                                                                                   06-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           07-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Tang YT,
                                                                                                                                                                                                                                                                                                                                                                                              AAI89791;
                                                                                                                                                                                                                                                                                                                                       AAI89791,
                                                                                                                                                                                                                                                                                                                                                                            8 \times 9 \times 9 \times 9
                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                          QQ
```

```
ö
                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The invention relates to human polynucleotides (AAI79941-AAI93841) and the encoded proteins (AA000010-AA013910) that exhibit activity elating cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynucleotides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, manuomodulatory activity and activity, tissue growth factor activity, immunomodulatory activity and activity in the diagnosis and/or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   treatment of cancer, leukaemia, nervous system disorders, arthritis and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                        Gaps
                                                                                                                                                                                                                                                                                                      Human; cytokine; cell proliferation; cell differentiation; gene the vaccine; peptide therapy; stem cell growth factor; haematopolesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Isolated nucleic acids and polypeptides, useful for preventing diagnosing and treating e.g. leukaemia, inflammation and immune disorders -
                                      ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 29; DB 22; Length 338;
Pred. No. 0.25;
         DB 22; Length 325; 0.25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 1; SEQ ID NO 83; 1399pp + Sequence Listing; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                      0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 338 BP; 150 A; 63 C; 65 G; 60 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ftp.wipo.int/pub/published_pct_sequences.
         Score 29; DB 2; Pred. No. 0.25 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        193 aaaaaaattttttttttttttttttt 221
                                                                     193 aaaaaaatttttttttttttttttttt 221
                                                                                    Human polynucleotide SEQ ID NO 83.
0.9%; Scc.
100.0%; Pre
0; P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%; Pro
                                                                                                                                                                                 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Tang YT, Liu C, Drmanac RT;
                                                                                                                                                                              AAI80023 standard; cDNA; 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000US-0515126.
2000US-0577409.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26-FEB-2001; 2001WO-US04927
                                                                                                                                                                                                                                           (first entry)
                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2001-514838/56
                        Best Local Similarity
Matches 29; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (HYSE-) HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    P-PSDB; AA000092
                                                                                                                                                                                                                                                                                                                                                                                                                  WO200164835-A2.
                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     inflammation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           28-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18-MAY-2000;
                                                                                                                                                                                                                                           06-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                 07-SEP-2001:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           29;
                                                                                                                                                                                                             AAI80023;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                 AAI80023,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δλ
                                                                       ð
                                                                                               g
```

AAI85033;

RESULT 1 AAI85033/

g

```
The invention relates to human polynucleotides (AAI79941-AAI93841) and the encoded proteins (AAO00010-AA001910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynucleotides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides are useful in gene therapy, vaccines or e.g. stem cell growth factor activity, haematopoiesis regulating activity, tissue growth factor activity, immunomodulatory activity and activity and may be useful in the diagnosis and/or treatment of cancer, leukaemia, nervous system disorders, arthritis and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human; cytokine; cell proliferation; cell differentiation; gene therapy;
                                                                                                                                    Human; cytokine; cell proliferation; cell differentiation; gene therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Note: The sequence data for this patent did not form part of the printer specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                       vaccine; peptide therapy; stem cell growth factor; haematopoiesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Isolated nucleic acids and polypeptides, useful for preventing diagnosing and treating e.g. leukaemia, inflammation and immune
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 1; SEQ ID NO 12016; 1399pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 352;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 352 BP; 132 A; 61 C; 66 G; 93 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 22;
0.25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .0.9%; Score 29; DB 100.0%; Pred. No. 0.2 iive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  193 aaaaaaattttttttttttttttttt 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 89 AAAAAATTTTTTTTTTTTTTT 61
                                                                                       Human polynucleotide SEQ ID NO 12016.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human polynucleotide SEQ ID NO 4246.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Drmanac RT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAI84186 standard; cDNA; 361
                                                                                                                                                                                                                                                                                                                                                                                   26-FEB-2001; 2001WO-US04927
                                                                                                                                                                                                                                                                                                                                                                                                                               2000US-0515126
                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000US-0577409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 0.9
Best Local Similarity 100.
Matches 29; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2001-514838/56.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (HYSE-) HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Tang YT, Liu C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P-PSDB; AA012025
                                                                                                                                                                                                                                                                                             WO200164835-A2
                                                                                                                                                                                                                                                   Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              inflammation.
                                                                                                                                                                                                                                                                                                                                                                                                                             28-FEB-2000;
18-MAY-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          06-NOV-2001
                                            06-NOV-2001
                                                                                                                                                                                                                                                                                                                                        07-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAI84186;
  AA191956;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAI84186/
  q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The invention relates to human polynucleotides (AAI79941-AAI93841) and the encoded proteins (AA000010-AA013910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations: The polynucleotides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, haematopoiesis regulating activity, tissue growth factor activity, immunomodulatory activity and activity and may be useful in the diagnosis and/or treatment of cancer, leukaemia, nervous system disorders, arthritis and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                             Human; cytokine; cell proliferation; cell differentiation; gene therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                              vaccine; peptide therapy; stem cell growth factor; haematopoiesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Isolated nucleic acids and polypeptides, useful for preventing diagnosing and treating e.g. leukaemia, inflammation and immune
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 1; SEQ ID NO 5093; 1399pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 29; DB 22; Length 344;
Pred. No. 0.25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 344 BP; 165 A; 55 C; 74 G; 50 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                193 aaaaaaattttttttttttttttt 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             158 AAAAAATTTTTTTTTTTTTTTTTTTTT 130
337 AAAAAATTTTTTTTTTTTTTTTTTTTTT 309
                                                                                                                                                                                                                                                   Human polynucleotide SEQ ID NO 5093.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAI91956 standard; cDNA; 352 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      rang YT, Liu C, Drmanac RT;
                                                                                                          AAI85033 standard; cDNA; 344
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            26-FEB-2001; 2001WO-US04927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28-FEB-2000; 2000US-0515126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 18-MAY-2000; 2000US-0577409
                                                                                                                                                                                                    06-NOV-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2001-514838/56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (HYSE-) HYSEQ INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          P-PSDB; AAO05102
                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO200164835-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       inflammation.
                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens.
```

disorders

AAI91956/C ID AAI919: XX RESULT 19

Matches

ò a

07-SEP-2001.

ö

Gaps

;

printed

```
26-FEB-2001; 2001WO-US04927
                                                          28-FEB-2000; 2000US-0515126
18-MAY-2000; 2000US-0577409
                                                                                             (HYSE-) HYSEQ INC
              07-SEP-2001.
                                                                                                                                                                                                     disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAI82188;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAI82188/
    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                            The invention relates to human polynuclectides (AAI79941-AAI93841) and the encoded proteins (AA000010-AAO13910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynoclectides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, haematopolesis regulating activity, tissue growth factor activity, immunomodulatory activity and activity and may be useful in the diagnosis and/or treatment of cancer, leukaemia, nervous system disorders, arthritis and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human; cytokine; cell proliferation; cell differentiation; gene therapy; vaccine; peptide therapy; stem cell growth factor; haematopolesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
vaccine; peptide therapy; stem cell growth factor; haematopoiesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation; ss.
                                                                                                                                                                                                                                                           Isolated nucleic acids and polypeptides, useful for preventing diagnosing and treating e.g. leukaemia, inflammation and immune
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ó
                                                                                                                                                                                                                                                                                                         Claim 1; SEQ ID NO 4246; 1399pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 22; Length 361; 0.25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 361 BP; 110 A; 102 C; 61 G; 83 T; 5 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0.9%; Score 29; DB
100.0%; Pred. No. 0.2
ive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human polynucleotide SEQ ID NO 4131.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAI84071 standard; cDNA; 369 BP
                                                                                                                                                                                                   Drmanac RT;
                                                                                                                                         28-FEB-2000; 2000US-0515126
18-MAY-2000; 2000US-0577409
                                                                                                                  26-FEB-2001; 2001WO-US04927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      06-NOV-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 0.99
Best Local Similarity 100.
Matches 29; Conservative
                                                                                                                                                                                                                        WPI; 2001-514838/56.
P-PSDB; AAO04255.
                                                                                                                                                                           (HYSE-) HYSEQ INC
                                                                                                                                                                                                   Liu C,
                                                                     WO200164835-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO200164835-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Inflammation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens.
                                               Homo sapiens
                                                                                            07-SEP-2001
                                                                                                                                                                                                                                                                                 disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAI84071;
                                                                                                                                                                                                 Tang YT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAI84071,
  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           င်
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                        The invention relates to human polynucleotides (AAI79941-AAI93841) and the encoded proteins (AA00010-AA013910) that exhibit activity elating to tytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynucleotides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, mematopolesis regulating activity, tissue growth factor activity, immunomodulatory activity and activity, inhibin activity and may be useful in the diagnosis and/or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wlpo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; cytokine; cell proliferation; cell differentiation; gene therapy; vaccine; peptide therapy; stem cell growth factor; haematopolesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                treatment of cancer, leukaemia, nervous system disorders, arthritis and inflammation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                  Isolated nucleic acids and polypeptides, useful for preventing diagnosing and treating e.g. leukaemia, inflammation and immune
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                            Claim 1; SEQ ID NO 4131; 1399pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 29; DB 22; Length 369;
Pred. No. 0.25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 369 BP; 139 A; 56 C; 83 G; 90 T; 1 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%; Pred. No. 0.2 cive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human polynucleotide SEQ ID NO 2248.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BP.
Tang YT, Liu C, Drmanac RT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAI82188 standard; cDNA; 404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      28-FEB-2000; 2000US-0515126.
18-MAY-2000; 2000US-0577409.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26-FEB-2001; 2001WO-US04927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      06-NOV-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity 100.
Matches 29; Conservative
                                                                          WPI; 2001-514838/56
                                                                                                               P-PSDB; AAO04140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO200164835-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            07-SEP-2001.
```

us-09-667-130-1.rng

```
Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            28-FEB-2000;
18-MAY-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  06-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        07-SEP-2001
                                                                 disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAI87993/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                           The invention relates to human polynucleotides (AAI79941-AAI93841) and the encoded proteins (AA000010-AA013910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynucleotides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, nemantopoiesis regulating activity, tissue growth factor activity, immunomodulatory activity and activity and may be useful in the diagnosis and/or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human; cytokine; cell proliferation; cell differentiation; gene therapy; vaccine; peptide therapy; stem cell growth factor; haematopoiesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   treatment of cancer, leukaemia, nervous system disorders, arthritis and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                           Isolated nucleic acids and polypeptides, useful for preventing diagnosing and treating e.g. leukaemia, inflammation and immune disorders -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                    Claim 1; SEQ ID NO 2248; 1399pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 29; DB 22; Length 404;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 404 BP; 133 A; 74 C; 83 G; 114 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            194 aaaaaattttttttttttttttttg 222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   195 AAAAAATTTTTTTTTTTTTTTTTTTTTT 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human polynucleotide SEQ ID NO 7151.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.08; Pre-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAI87091 standard; cDNA; 406 BP
                                                                 Tang YT, Liu C, Drmanac RT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              rang YT, Liu C, Drmanac RT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   28-FEB-2000; 2000US-0515126.
18-MAY-2000; 2000US-0577409.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26-FEB-2001; 2001WO-US04927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    06-NOV-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  29; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2001-514838/56.
                                                                                                          2001-514838/56
                    (HYSE-) HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (HYSE-) HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P-PSDB; AAO07160
                                                                                                          WPI; 2001-514838
P-PSDB; AA002257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO200164835-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .nflammation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               07-SEP-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAI87091;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAI87091,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCOMMENS OF A STATE O
```

```
the encoded proteins (AA000010-AA013910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polymeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, hematopolesis regulating activity, issue growth factor activity, immunomodulatory activity and activity and may be useful in the diagnosis and/or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; cytokine; cell proliferation; cell differentiation; gene therapy; vaccine; peptide therapy; stem cell growth factor; haematopolesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                treatment of cancer, leukaemia, nervous system disorders, arthritis and inflammation.
                                                                                                                                                                                                                   The invention relates to human polynucleotides (AAI79941-AAI93841) and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
Isolated nucleic acids and polypeptides, useful for preventing diagnosing and treating e.g. leukaemia, inflammation and immune
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Isolated nucleic acids and polypeptides, useful for preventing diagnosing and treating e.g. leukaemia, inflammation and immune
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 1; SEQ ID NO 8053; 1399pp + Sequence Listing; English.
                                                                                                                                           Claim 1; SEQ ID NO 7151; 1399pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 406;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 406 BP; 127 A; 115 C; 66 G; 98 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0.9%; Score 29; DB 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0.25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Pred. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            193 aaaaaaattttttttttttttttttttt 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  287 AAAAAATTTTTTTTTTTTTTTTTTTTTTT 259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human polynucleotide SEQ ID NO 8053.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAI87993 standard; cDNA; 416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Drmanac RT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      26-FEB-2001; 2001WO-US04927.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2000US-0515126.
2000US-0577409.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity 100.
Matches 29; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2001-514838/56.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (HYSE-) HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tang YT, Liu C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P-PSDB; AA008062
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200164835-A2
```

ó

```
The invention relates to human polynucleotides (AAI79941-AAI93841) and the encoded proteins (AAO00010-AAO13910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynucleotides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, haematopoiesis regulating activity, tissue growth factor activity, immunomodulatory activity and activin/inhibin activity and may be useful in the diagnosis and/or inflammation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The invention relates to human polynucleotides (AAI79941-AAI93841) and the encoded proteins (AA00010-AA013910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynucleotides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, haematopolesis regulating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; cytokine; cell proliferation; cell differentiation; gene therapy; vaccine; peptide therapy; stem cell growth factor; haematopoiesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation; ss.
                                                                                                                                                                                                                                                                                                                                                                                                       Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Isolated nucleic acids and polypeptides, useful for preventing diagnosing and treating e.g. leukaemia, inflammation and immune
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 1; SEQ ID NO 4827; 1399pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0.9%; Score 29; DB 22; Length 416;
00.0%; Pred. No. 0.24;
ve 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 416 BP; 208 A; 33 C; 96 G; 62 T; 17 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Prec. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              193 aaaaaatttttttttttttttttt 221 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 1914 | 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human polynucleotide SEQ ID NO 4827.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAI84767 standard; cDNA; 417 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Liu C, Drmanac RT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  26-FEB-2001; 2001WO-US04927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0515126
2000US-0577409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 0.9%
Best Local Similarity 100.0
Matches 29; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2001-514838/56.
P-PSDB; AA004836.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (HYSE-) HYSEQ INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO200164835-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  28-FEB-2000;
18-MAY-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                06-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               07-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAI84767;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Tang YT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HOMO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AA184767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ô
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to human polynucleotides (AAI79941-AAI93841) and the encoded proteins (AA000010-AA013910) that exhibit activity elating to eytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynucleotides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, immunomodulatory activity and activity, tissue growth factor activity, immunomodulatory activity and activin/inhibin activity and may be useful in the diagnosis and/or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human; cytokine; cell proliferation; cell differentiation; gene therapy; vaccine; peptide therapy; stem cell growth factor; haematopolesis; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences.
                                                                        Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO
activity, tissue growth factor activity, immunomodulatory activity and activin/inhibin activity and may be useful in the diagnosis and/or treatment of cancer, leukaemia, nervous system disorders, arthritis and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      treatment of cancer, leukaemia, nervous system disorders, arthritis and
                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Isolated nucleic acids and polypeptides, useful for preventing diagnosing and treating e.g. leukaemia, inflammation and immune
                                                                                                                                                                                                                                            ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 1; SEQ ID NO 9885; 1399pp + Sequence Listing; English.
                                                                                                                                                                                                       Score 29; DB 22; Length 417; Pred. No. 0.24;
                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                  Sequence 417 BP; 149 A; 80 C; 95 G; 93 T; 0 other;
                                                                                                             at ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                 100.08; Preu. ...
                                                                                                                                                                                                                                                                                 193 aaaaaaattttttttttttttttttttt 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human polynucleotide SEQ ID NO 9885.
                                                                                                                                                                                                                                                                                                   AAI89825 standard; cDNA; 422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     lang YT, Liu C, Drmanac RT;
                                                                                                                                                                                                         0.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      26-FEB-2001; 2001WO-US04927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28-FEB-2000; 2000US-0515126
18-MAY-2000; 2000US-0577409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      06-NOV-2001 (first entry)
                                                                                                                                                                                                                                            29; Conservative
                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2001-514838/56.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (HYSE-) HYSEQ INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             P-PSDB; AA009894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO200164835-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .nflammation.
                                                      inflammation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   07-SEP-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAI89825;
                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                          AAI89825/
ID AAI8
                                                                                                                                                                                                                                                                                                                                                                                                                                88888888888
                                                                                                                                                                                                                                                                                 õ
                                                                                                                                                                                                                                                                                                                  g
```

x os

ó g

```
193 aaaaaaattttttttttttttttttt 221
                                                                                                                                                                                                                 AAK63939/c
   ò
                                                                    g
                                                                                                                                                                                   ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The invention relates to human polynucleotides (AAI79941-AAI93841) and the encoded proteins (AA000010-AA013910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynectides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, haematopoiesis regulating activity, issue growth factor activity, immunomodulatory activity and activin/inhibin activity and may be useful in the diagnosis and/or treatment of cancer, leukaemia, nervous system disorders, arthritis and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; cytokine; cell proliferation; cell differentiation; gene therapy; vaccine; peptide therapy; stem cell growth factor; haematopoiesis; tissue growth factor: immunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation; ss.
                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Isolated nucleic acids and polypeptides, useful for preventing diagnosing and treating e.g. leukaemia, inflammation and immune disorders -
                                                                                                                                                                                   ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 1; SEQ ID NO 4678; 1399pp + Sequence Listing; English.
                                                                                                   Query Match 0.9%; Score 29; DB 22; Length 422; Best Local Similarity 100.0\%; Pred. No. 0.24; Matches 29; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 426 BP; 110 A; 40 C; 82 G; 156 T; 38 other;
Sequence 422 BP; 132 A; 96 C; 93 G; 101 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                       193 aaaaaaattttttttttttttttttttt 221
                                                                                                                                                                                                                                                                                             Human polynucleotide SEQ ID NO 4678.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAI84618 standard; cDNA; 426 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Tang YT, Liu C, Drmanac RT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              26-FEB-2001; 2001WO-US04927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  28-FEB-2000; 2000US-0515126.
18-MAY-2000; 2000US-0577409.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        06-NOV-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2001-514838/56.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (HYSE-) HYSEQ INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P-PSDB: AAO04687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200164835-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                inflammation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         07-SEP-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAI84618;
                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAI84618/
```

```
Human; immune; haematopoietic; immune/haematopoietic antigen; cancer; cytostatic; gene therapy; vaccine; metastasis; ss.
                                                                                       Human immune/haematopoietic antigen encoding cDNA SEQ ID NO:8999.
152 AAAAAAATTTTTTTTTTTTTTTTTTTTTT 124
                                            BP.
                                           AAK63939 standard; cDNA; 467
                                                                                                                                                                                                                                                                                                                       2000US-0224518.
2000US-0224519.
                                                                                                                                                                                                                                                                                                                                                    2000US-0225266
                                                                                                                                                                                                                                                                                                                                                                   2000US-0225268
                                                                                                                                                                                                                                                                                                                                                                                   2000US-0225447
                                                                                                                                                                                                                                                                                                                                                                                                                              2000US-0226868
                                                                                                                                                                                                                                                                                                                                                                                                                                      2000US-0227182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000US-0231242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000US-0231243
                                                                                                                                                                       17-JAN-2001; 2001WO-US01354
                                                                                                                                                                                                                   2000US-0189874
                                                                                                                                                                                                                                  2000US-0198123
                                                                        (first entry)
                                                                                                                                          WO200157182-A2
                                                                                                                                                                                                                                                                                                                                                                                                      14 AUG - 2000;
18 - AUG - 2000;
22 - AUG - 2000;
22 - AUG - 2000;
23 - AUG - 2000;
30 - AUG - 2000;
01 - SEP - 2000;
01 - SEP - 2000;
                                                                                                                                                                                                                 16-MAR-2000;
17-MAR-2000;
18-APR-2000;
19-MAY-2000;
07-JUN-2000;
30-JUN-2000;
                                                                                                                            Homo sapiens.
                                                                                                                                                                                                                                                                                                                                     14-AUG-2000;
14-AUG-2000;
14-AUG-2000;
14-AUG-2000;
                                                                        06-NOV-2001
                                                                                                                                                                                                                                                                                                                26-JUL-2000;
14-AUG-2000;
                                                                                                                                                                                                            02-MAR-2000;
                                                                                                                                                        09-AUG-2001
                                                          AAK63939;
```

;

Gaps

.

ch 0.9%; Score 29; DB 22; Length 426; I Similarity 100.0%; Pred. No. 0.24; 29; Conservative 0; Mismatches 0; Indels

Query Match Best Local Si Matches 29;

```
0000S-0246611
                                                                                                                                                                                                                       2000US-0249214
                                                                                                                                                                                                                                              2000US-0249264
                                                             27-SEP-2000;
27-SEP-2000;
29-SEP-2000;
29-SEP-2000;
                                                                                                                                                                                                                                              17-NOV-2000;
                                                   25-SEP-2000,
25-SEP-2000,
                                                                           29-SEP-2000
                                                                                     02-OCT-2000
                                                                                            -OCT-2000
                                                                                                                   -OCT-2000
                                                                                                                          -OCT-2000
                                                                                                                                       01-NOV-2000
                                                                                                                                             08-NOV-2000
                                                                                                                                                 -NOV-2000
                                                                                                                                                    NOV-2000
                                                                                                                                                              08-NOV-2000
                                                                                                                                                                     NOV-2000
                                                                                                                                                                                               NOV-2000
                                                                                                                                           38-NOV-2000
                                                                                                                                                        -NOV-2000
                                                                                                                                                                        NOV-2000
                                                                                                                                                                           38-NOV-2000
                                                                                                                                                                               NOV-2000
                                                                                                                                                                                  NOV-2000
                                                                                                                                                                                      NOV-2000
                                                                                                                                                                                                             NOV-2000
```

```
amino acid sequences given in AMMS170 to AAM91921. (I) have cytostatic acityity, and can be used in gene therapy and vaccine production. (I) proteins and polynucleotides may be used in the prevention, diagnosis and treatment of diseases associated with inappropriate (I) expression. For example, they may be used to treat disorders associated with decreased expression by rectifying mutations or deletions in a patient's genome that affect the activity of (I) by expression in a patient's genome that affect the activity of (I) by expression of (I). Additionally, (I) polynucleotides may be used to produce the secreted (I), by inserting the nucleic acids into a host cell and culturing the cell to express the protein. (I) proteins and polynucleotides may be used to prevent, diagnose and treat immune/haematopoietic-related diseases, especially cancers and cancer metastases of haematopoietic-derived cells. AAK64703 concers and cancer metastases of haematopoietic antigen genomic sequences from the present invantion. AAK4942 to AAK84509 and AAM82169 represent sequences used in the exemplification of the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Nucleic acids encoding human immune/hematopoietic antigen polypeptides, useful for preventing, diagnosing and/or treating cancers and metastasis -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAK54951 to AAK64702 encode the human immune/haematopoietic antigen (I)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Species specific, genus specific, family specific, probe, detection, identification, algal; archaeal; bacterial; fungal; parasitical;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Irichophyton mentagrophytes nucleotide sequence SEQ ID NO:495.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 1; SEQ ID NO 8999; 3071pp + Sequence Listing; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 0.9%; Score 29; DB 22; Length 467; Best Local Similarity 100.0%; Pred. No. 0.24; Matches 29; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 467 BP; 156 A; 93 C; 89 G; 128 T; 1 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             193 aaaaaaattttttttttttttttttt 221
                                                                                                                                                                                                                                                                                                                                                             Rosen CA, Barash SC, Ruben SM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAH00504 standard; DNA; 608 BP
                                                                                                                                        2000US-0256719.
2000US-0251479.
2000US-0251856.
2000US-0251868.
                                                                                                                                                                                                                                2000US-0251989.
2000US-0251990.
2000US-0254097.
                                                                                                                                                                                                                                                                                                                           (HUMA-) HUMAN GENOME SCI INC
                                                   2000US-0249300
                                                                       2000US-0250160
                                                                                      2000US-0250391
2000US-0251030
                                                                                                                          2000US-0251988
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24-JUL-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        29; Conservative
                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2001-483426/52.
P-PSDB; AAM91158.
                                                                    01-DEC-2000;
01-DEC-2000;
05-DEC-2000;
05-DEC-2000;
05-DEC-2000;
                                                                                                                                                                            08-DEC-2000;
08-DEC-2000;
08-DEC-2000;
08-DEC-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
17-NOV-2000;
                                                                                                                                                                                                                                                     08-DEC-2000;
                                                                                                                                                                                                                                                                                     05-JAN-2001;
                                                                                                                                                              06-DEC-2000;
                                                                                                                                                                                                                                                                      11-DEC-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAH00504;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAH00504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
```

ö

Human, cytokine, cell proliferation, cell differentiation; gene therapy; vaccine; peptide therapy; stem cell growth factor; haematopoies1s; tissue growth factor; immunomodulatory; cancer; leukaemia; nervous system disorders; arthritis; inflammation; ss.

Human polynucleotide SEQ ID NO 8934.

06-NOV-2001 (first entry)

```
The present invention describes a method for generating a repertory of nucleic acids of tuf, fus, atpD and/or recA genes from which probes and/or primers are derived. The method comprises amplifying the nucleic acids of determined algal, archaeal, bacterial, fungal and parasitical species with a combination of defined primer pairs. The method can be used for producing probes and/or primers for detecting one or more related microcorganisms e.g. algae, archaea, bacteria, fungi and parasites, for universal detection and for specific and ubiquitous detection and identification of an algal, archaeal, bacterial, fungal and parasitical species, genus, family and group. A nucleic acid (I) obtained using the method of the invention can be used for the universal detection of any bacterium, fungus or parasite in a sample and for the detection of at least one antimicrobial agent resistance gene or at detection of at least one antimicrobial agent resistance gene or at least one toxin gene. hexA nucleic acids are used for the specific and ubiquitous detection and for identification of Streptococcus pneumoniae.

(I) can be used to design a therapeutic agent which is effective against microorganisms. Microbial species or genus or family or phylum or group which can be detected include Abiotrophia adiacens, Bordetella sp., Corynebacterium sp., Enterobacteriaceae group, Escherichia coli, Mycobacteriaceae gamily, Pseudomonads group, Escherichia coli, Mycobacteriaceae gamily, Pseudomonads group, Streptococcus species or design and stanking or phylum or group was considered.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Neisseria gonorrhoae and Staphylococcus sp. Using DNA based tests provides faster results than substrate specificity tests as results can be determined in an hour and improved accuracy is also achieved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAH00010 to AAH002304 represent nucleotide sequences and primers/probes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nucleic acid sequences are used to generate universal probes and primers which can be used to identify and detect the presence of algal, archaeal, bacterial, fungal and parasitical species in a test sample -
microorganism; diagnosis; translation elongation factor Tu; toxin;
                                                 translation elongation factor G; RecA recombinase; resistance; catalytic subunit of proton-translocating ATPase; antimicrobial;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            which are given in the exemplification of the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ouellette M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 608 BP; 152 A; 138 C; 140 G; 178 T; 0 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Menard C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Huletsky A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 25; Page 708-709; 1580pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (INFE-) INFECTIO DIAGNOSTIC (IDI) INC.
                                                                                                                                                                                                                                                             Trichophyton mentagrophytes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             28-SEP-2000; 2000WO-CA01150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19-MAY-2000; 2000CA-2307010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Boissinot M,
                                                                                                                                                          vaccine; primer; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2001-245006/25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ROY PH;
                                                                                                                                                                                                                                                                                                                                                                 WO200123604-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bergeron MG,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Picard FJ,
```

isolated nucleic acids and polypeptides, useful for preventing diagnosing and treating e.g. leukaemia, inflammation and immune disorders -

Drmanac RT;

Liu C,

Tang YT,

(HYSE-) HYSEQ INC

WPI; 2001-514838/56

P-PSDB; AAO08943

26-FEB-2001; 2001WO-US04927. 28-FEB-2000; 2000US-0515126. 18-MAY-2000; 2000US-0577409.

WO200164835-A2

07-SEP-2001

Homo sapiens.

Claim 1; SEQ ID NO 8934; 1399pp + Sequence Listing; English.

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                         The invention relates to human polynucleotides (AAI79941-AAI93841) and the encoded proteins (AA000010-AA019910) that exhibit activity elating to cytokine, cell proliferation or cell differentiation or which may induce production of other cytokines in other cell populations. The polynucleotides and polypeptides are useful in gene therapy, vaccines or peptide therapy. The polypeptides have various cytokine-like activities, e.g. stem cell growth factor activity, hammatopoiesis regulating activity issue growth factor activity, immunomodulatory activity and activity in activity and may be useful in the diagnosis and/or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from WIPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            treatment of cancer, leukaemia, nervous system disorders, arthritis and inflammation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 22; Length 758;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 758 BP; 257 A; 157 C; 138 G; 204 T; 2 other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0.23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ftp.wipo.int/pub/published_pct_sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0%; Pred. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0.9%; Score 29;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       193 aaaaaaatttttttttttttttttttt 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Search completed: June 14, 2002, 20:35:46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 0.9
Best Local Similarity 100.
Matches 29; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               qq
```

Job time: 11384 sec

ö

Gaps

; 0

Indels

;

0.9%; Score 29; DB 22; Length 608;

0.23;

100.0%; Pred ...

29; Conservative

Best Local Similarity

Matches

Query Match

AAI88874 standard; cDNA; 758

AAI88874/c

RESULT

Ωp

ò

AAI88874;

AX XX

```
AC004935 Homo sapi
AL53598 Homo sapi
AC002115 Human DNA
AC008970 Plasmodiu
AP001480 Homo sapi
AC099091 Rattus no
AC002556 Human Chr
AC015695 Homo sapi
AP001971 Homo sapi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PAT 08-AUG-2001
                                                                                                                     AX251776 Sequence
AX345124 Sequence
AX271735 Homo sapi
AC096301 Rattus no
AP001848 Homo sapi
AL049184 Plasmodiu
282082 Caenorhabdi
AC027803 Homo sapi
AC027815 Homo sapi
AC023115 Homo sapi
AC072819 Mus muscu
AC079869 Mus muscu
AC77981 Sequence
AX277981 Sequence
                                                            AL451079 HOMO sapi
AC096541 HOMO sapi
AL645546 Mus muscu
AX251053 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Danio rer
Human DNA
Human DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Unknown.
Unclassified.
I (bases 1 to 3337)
Barnwell.J.W.
Plasmodium vivax blood stage antigens, antibodies, and diagnostic
                                                                                                                                                                                                                                                                                                                                Sequence
Sequence
Homo sapi
Drosophil
Homo sapi
Homo sapi
Homo sapi
Homo sapi
Drosophil
                  123337 Sequence 1
AC067910 Homo sapi
AC027625 Homo sapi
                                                                                                                                                                                                                                                                                                                                                                                        AC015033 F
AC024343 F
AC091595 F
AC109316 F
AC004979 F
AC010691 E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AL672088
AL138709
AL022171
                                                                                                                                                                                                                                                                                                                                                AX346643
                                                                                                                                                                                                                                                                                                                                                            AJ011712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0%; Score 3337; DB 6; Length 3337;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Patent: US 6231861-A 1 15-MAY-2001;
Location/Qualifiers
1. .3337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3337 bp
Sequence 1 from patent US 6231861.
AR151085
AR151085.1 GI:15117135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HS35M08
HSAC002115
                                                                                                                                   AX345124
HSA271735
AC096301
AP001848
PFMAL13P3
                                                                                                                                                                                                            CEZC334
AC027803
AL158193
AC012141
AC023315
AL671090
AC079869
                                                                                                                                                                                                                                                                                                                                                            HSA011712
                    123337
AC067910
                                                AC027625
AL451079
AC096541
AL645546
AX251053
AX251776
                                                                                                                                                                                                                                                                                                                                                                                        AC015033
AC024343
AC091595
AC109316
AC004979
AC010691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AL138709
HS384F21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AC004935
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AP001480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PFMAL3P4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="unknown"
467 c 875 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           875 g
100.0

11.2 165668

11.0 186562

11.0 226698

11.0 226698

11.0 226698

11.0 2266198

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246178

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246178

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 246176

11.0 24617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unknown.
                                                                 444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RÈFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT
AR151085
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                                         8
111
113
113
114
                                                                                                                                                                                                                            000000
                                                                                                                                                                                                                                                                                                                                                               000
                                                                                                                                                                                                                                                                                                                                                                                                                                           O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0000
                                     υv
                                                                                                                     (without alignments)
17176.568 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                             June 14, 2002, 15:37:31; Search time 4065.53 Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Description
                                                                                                                                                                                                                                                                                                                               3595312
                  GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd.
                                                                                                                                                                                                                                                                  1797656 seqs, 10463268293 residues
                                                                                                                                                                                                                                                                                                                               parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SUMMARIES
                                                                           - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                     Post-processing: Listing first 45 summaries
                                                                                                                                                                                                                        OLIGO_NUC
Gapop 60.0 , Gapext 60.0
                                                                                                                                                                                                                                                                                                                          Total number of hits satisfying chosen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      em_vi:*
em_htg_hum:*
em_htg_inv:*
em_htg_other:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  em_htgo_inv:*
                                                                                                                                                                                                                                                                                                                                                         Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                 US-09-667-130-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query
Match Length DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gb_un:*
gb_vi:*
em_ba:*
em_fun:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gb_ro:*
gb_sts:*
gb_sy:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               em_ph: *
em_pl: *
em_ro: *
em_sts: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                9b_ba:*
9b_htg:*
9b_om:*
9b_ow:*
9b_ov:*
9b_pat:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 em_pat:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         em_in:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             em_un:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       em_mu:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     em om: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     em_or:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    em_ov:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gp_pr:*
                                                                                                                                                                                                                                                                                                                                                                                                                                    GenEmb1:*
                                                                                                                                                                                                                                                                                                0
                                                                                                                                                              Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score
                                                                                                                                                                                                                          Scoring table:
                                                                                                                                                                                                                                                                                                Word size :
                                                                           OM nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                  Database :
                                                                                                                                                                                                                                                                     Searched:
                                                                                                      Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .
9
```

1 1 61 61 121 121 121 181	gaattooggtaaagtaacaactatggtttogtatotatataacottactaattttatc 60 	qa o	1081 CAGAATCTCCC
		<u>}</u>	
121 121 181 181	ttttgcttttcttttaattcatgcttcaacagtaagataaaataatctataaaaactgc 120 	qa q	1141 cggaagtggge 
181	tatatatacatatattcataagtggcatttgtgaattgcgatcatttaaatttacgta 180 	Qy Dp	1201 gattegeatt 
	aaaacaatattgaaaaaattttttttttttttttttttt	Oy Db	1261 cagaagaagct 
Oy 241 g	aattggaaaatgcttctgatgatgttgtagaggtggaggatccttcaaacgacggtttag 300 	yo da	1321 aggcaactcce 
Oy 301 g	aattagaagagaaaattttgatgagaattcaggtgatgatgaactcttttagatgcta 360 	da oy	1381 ctgcagaagge 
Qy 361 c	cococgaagatgactttgccttaacagatttgccaattgaagacgatgaggaagtcaacg 420 	da Db	1441 agggagaaga 
Oy 421 e	aaacgttagatggaggtgaatcattaggagaggtttccactgaagatatggaaacagaag 480 	Oy Db	1501 aattagaagaa 
Qy 481 g	atggctcaacagatgatacggaaacagaagactacctggtgatatggaaggagaag 540 	λ <sub>ο</sub> qα	1561 gagaagcgtte 
541	909	Qy	1621 agcctgtcaaa 
601	9 9	Qy	1681 ataacgattte 
661	7	Qy Db	
Qy 721 g	aaactgaagaaggagcaactggagatgcggaaactgaaaatggagcaactgtgtatgta	da da	1801 cagtggcagta 
Oy 781 6	acacagaagatagttcagctgatggagcagaaaagtacatgttcctgctcaagaaaatg 840 	Oy Q	1861 acgatttcgae 
Oy 841 t Db 841 1	tacaacctgccgatagtaatgatgccctctttggaagtattttggataaagatataatt 900 	da da	
Qy 901 t	ttgatcatattaaagatttcgagccactattcgaacaaattgtggcgggtactgctaaac 960 	da da	981
Qy 961 a	atgttacgggacaagtaccaatgaaacctgtaccattaccagtggcagaagagccg 1020 	do do	2041 aagaagtagaa 
Qy 1021 G	cgcaagtaccagcggaagaattagatgccactccagaggatgacttcgcattagatgtta 1080 	Oy Op	2101 tacctgcagae 

.

ŗ

SAGCGGAAGAATTAGATGCCACTCCAGAGGATGACTTCGCATTAGATGTTA 1080 PAACGTATGCAGACATTACATCCTTTGAGCCATTATTTAAACAAATCCTCA lagtagcagtgccagtagtggccgaaccggtagaagtagtgactcctgctc taacgtatgcagacattacatcctttgagccattatttaaacaaatcctca attagaaggaactgcagaagctccagaggaaggagaattagtattagaag

20	80	40	00	90	20	80	40	00	. 09	20		40	00	09	20	80	40
ag 22       AG 22	ag 22     AG 22	ag 23.       AG 23.	gg 24     GG 24	ac 24         24	gc 25   1   GC 25	at 25      AT 25	tc 26     TC 26	at 27         27	gt 27     GT 27	gt 28      28	ac 28       AC 28	ta 29     TA 29	cg 30  -  cg 30	99 30     66 30	ca 31  -   -	ct 31       	aa 32  -  AA 32
ccagae           ccagae	gtacca           GTACCA	gaagte          GAAGTA	gaagag          GAAGAC	gatata         GATATA	gacato           GACATO	tatcc        TATCC	ttcatt         TTCAT1	gaaaga          GAAAGA	aaatgo          AAATGO	cgagaç            CGAGAC	gatte        GATTC	aaagat        AAAGAT	agaa       AGAA	aaatgte 	gaacto             GAACTO	atggad        ATGGAC	cggaaaa              GGAAAA
aggtac          AGGTAC	aagage           AAGAGC	tagtaç         TAGTAC	agaa         AGAA	aagaag          AAGAAG	Satc 	cagtgt           CAGTG1	tcacat         TCACA1	ctaga          CTAGAC	iaaat        AAAT	Jaaaa         AAAa	aaatto          AAATTO	ttgtga         rrGrG	ggaaaa        GGAAAA	tattaa         TATTA	gaagag         GAAGAG	aaaaaa         AAAAA	ttttct        TTTTCT
ggaaga          GGAAGI	gtgg	agcggt           AGCGG1	agaagaa        AGAAGA	tcgg       CGG	atctato          ATCTATO	aaactgo 	rggc       rggc	199	taattge            TAATTGE	tttgaç        TTTGAC	1000 1000	atte       ATTC	Cact	caaaatt 	agaaa           AGAAAC	atgg       ATGG	aaca 
gaagte         GAAGT	gaagaa        GAAGAA	gtacca        GTACCA	gtagaa        GTAGAA	aatacca            AATACCA	it iit	LD (L)	acagaa         ACAGAA	ttaaataa            TTAAATAA	egettä            GCTT	getgg1        GCTGG	gtcaaal          GTCAAA	tttaaa        TTTAAA	atgaate        ATGAATE	cacatca        CACATC	aataga 	caaaga        CAAAGA	gtgtaca        GTGTACA
tagaa        TAGAA(	tacca        TACCA	tagagg        TAGAGG	aagaa       AAGAA	tag     IAG	ctggaati 	aagaa       AAGAAG	aatcta         AATCTA	gagc       3AGC	ggett 	accca       ACCCA	cagaa        CAGAA	tta   TA	ggttaate             GGTTAAT	gac SAC	aatata        AATATA	tagga       ragga	tcaat        CAAT
agaag        AGAAG	agagg        AGAGG	aagaag              AAGAAG	gccag         GCCAG	acaat       ACAAT	aggete         AGGCTe	ggaag        GGAAG	ttcac        TCAC	tagaagt         TAGAAGT	tggct        TGGCT	aaagg        AAAGG	taaag        TAAAG	attccaatt             ATTCCAAT	agaat       AGAAT	aagttate             AAGTTAT	tcct       CCT	aatatt        AATATT	tcaat        CAAT
25222 	gtgga       GTGGA	gtag       GTAG	gaggt        GAGGT	gtatt	gaatt        GAATT	tttat        TTTAT	gaaga        GAAGA	ogat        GAT	aatgggc              AATGGGC	aaaagg 	atggtt:        ATGGTT	actc       ACTC	accaaa             ACCAAA(	Ltg 	gccaa         CCCAA	aaacga         AAACGA	tgtgt!        TGTGT
gaggta        GAGGTA	gaagaa        GAAGAA	gaagaag         GAAGAAG	gaagaag         GAAGAAG	gaagat        GAAGAT	aaagac        AAAGAC	aaaggaati             AAAGGAAT	gcaaag         GCAAAG	tgggaad        TGGGAAG	aaagaa 	tcaaca        TCAACA	aaaa       AAAA	aacgac          AACGAC	aagaaaad 	gaatcati            GAATCAT	taccgt        TACCGT	aaaaagaa 	atttt        NTTTTT
tagaag        TAGAAG	taccag           TACCAG	aagtgg          AAGTGC	tagtag         TAGTAG	aggaag            AGGAAG	caaaga 	ttcca8         TTCCAA	atttg           ATTTTG	gegaet            GCGACT	gaaata         GAAATA	aaattt           AAATTT	aaatgga           AAATGGA	ggatga 	aaaaca         AAAACA	gttctg           GTTCTG	aatggt         AATGGT	tcctaa           rcctaa	gttaaat          GTTAAAT
gaag       GAAG	agaggt          AGAGG1	ggaaga         GGAAG	ageggt           AGCGG1	agtag        AGTAG	caaac               AAAC	Jacg         SACG	agaaga          AGAAGI	agaage 	caaa IIII CAAA	agte 	cgagaa          CGAGAA	#=#	tttg       TTTG	ttatge            TATG	tegaga         rcGAGA	gtttei        GTTTCI	aaaaag             AAAAA
ccagaa 	gtgga        GTGGA	gaagt        GAAGT	tacc 	aacc 	ttaga         TAGA	taccaag        TACCAAG	aaacc 	ggcct       GGCCT	atggaa        ATGGAA	gaatata              GAATAT	agcga        AGCGA	ttgaaaaa             TTGAAAAA	tcacaa        TCACAA	099999        	aagag        AAGAG	aaatg        AAATG	attgga           ATTGGA
1 ta	1 aa     1	l aa	1 aag	1 aaga           AAG	1 aa1 	1 ac	1 tg	1 aa 1 AA	1 99 1 1 66	1 CA	1 99 1 66	1 ac	1 tg	1 aag 1 AAG	1 G=C	1 tg	1 ca
216	222	228	234	240	246.	252	258	264	270.	276.	282	288	294	300	306	312	318
Oy Dp	Oy Dp	Oy Op	oy Dp	oy op	Oy Op	Oy Dp	Oy Dp	oy D	oy og	oy ob	9 P	Oy Dp	o o	oy Pp	Oy Op	Oy Dp	oy O

```
ö
                                                                                   PAT 07-0CT-1996
                                                                                                                                                               Plasmodium vivax blood stage antigens, PvESP-1, antibodies, and diagnostic assays
Patent: US 5532133-A 1 02-JUL-1996;
Location/Qualifiers
        3241 cycctaaccaaggaagaatggaatcaatttgttaatgaaataaaaagtttgaattatagaa 3300
                                                                                                                                                                                                                                                                                                         ttttgctttttcttttaattcatgcttcaacagtaagataaaataatctataaaaactgc 120
                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                   aattagaagaagaaaattttgatgagaattcaggtgatgatgaaactcttttagatgcta 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                            gaattooggtaaagtaacaactatggtttogtatotatatataacottactaattttato 60
                                                                                                                                                                                                                                                                                                                                                                                                     aagaagctggcgatatggaagcaggggaagctggtgatttggaagcaggggaagaaa
                                                                                                                                                                                                                                                                                    .;
0
                                                                                                                                                                                                                                             Length 3337;
                                                                                                                                                                                                                                                             Indels
                                                                                    linear
                                                                                                                                                                                                                                              . 9
                                                                                                                                                                                                                                                             ;
0
                            DB
                                                                                     DNA
                                                                                                                                                                                                                                            Query Match 100.0%; Score 3337; Best Local Similarity 100.0%; Pred. No. 0; Matches 3337; Conservative 0; Mismatches
                                                                                 3337 bp
Sequence 1 from patent US 5532133.
123337.1 GI:1603207
                                                                                                                                                                                                       /organism⇔"unknown"
467 c 875 g
                                                                                                                                                1 (bases 1 to 3337)
Barnwell, J.W.
                                                                                                                                                                                               .3337
                                                                                                                                          Unclassified.
                                                                                                                                                                                                               a
                                                                                                                                                                                                               1304
                                                                                                                          Unknown
                                                                                                                                  Unknown
                                                                                          DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                              BASE COUNT
ORIGIN
                                                                                                                                  ORGANISM
                                                                                                                                                REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                            П
                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                               JOURNAL
                                                                                                                                                                                        FEATURES
                                                                    RESULT
123337
                                                                                    LOCUS
             g
                                             Q
                             ò
                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                         q
                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                    QQ
                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                  qq
                                                                                                                                                                                                                                                                                                                                                                                                                                  οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Op
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
```

	900 900 900 960 1020 1080 1080	4 3 3 3 2 2 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	
AAGAAGCTGGCGATATGGAAGCAGGGGAAGAAGCTGGTGATTTGGAAGCAGGGGAAGAAA  ctggcgatttggaagcagggaaggaaactggcgatttggaagcaggggaagaagctggtg [111111111111111111111111111111111	CACAGAAGATAGTTCAGCTGATGGAGCAGAAAAGTACATGTTCCTGCTCAAGAAAAT acaacctgccgatagtaatgatgccctctttggaagtattttggataaagatataatt [	Saagaagaagaagaagaacaaccgaagaattagatgccactccagagagaagaagagagaagaacaacgaagaagaagaacaac	CTGCAGAAGGAGAAACCGTAGAGGAGAAACCGTAGAGGAAGAAACCGTAG GAGGAGAAGGAGAAACCGTAGAGGAGAAACCGTAGAGGAAACCGTAG GAGGAGAAGGAAACCGTAGAGGGAAACCGTAGAGGAAACCGTAG GAGGAGAAGAACCGTAGAGGAAACCGTAGAGGAAACCGTAG GAGAGAAGAAGGAGAAGAAGAAGAAGGAACTCCAGAGGATGACTTCC AATTAGAAGAACCATCAGGAGAAGGAAAGGA
541 601 601 661 721 721 781	/81 841 841 901 961 1021 1021 1081		1381 1441 1501 1501 1561 1561 1621 1621
		6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	

tgaaaccagaagattttgcaaaggaagattcacaatctacagaatggctcacttcattc Op Db QY Db QΩ Qy Db QY Db ΟŸ qq Qy Db οy a Qy ٥y g οy g δ Ω δλ qq g g δ ò ò

q

õ q ò QQ ò g õ g ò

q

9

õ

QQ

õ

q ò g

ö

```
13010:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13810:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2478:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3302:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6516:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7313:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8117:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                the record is be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1562
1662
2379
2479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3203
3303
4007
4107
4899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5612
5712
6417
6517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    7314
8018
8118
8834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         11285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              12109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13811
                                                                                                          TITLE
JOURNAL
                                                                                                                                                                     COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Biren, B., Linton, L., Nusbaum, C., Lander, E., Abraham, H., Allen, N., Anderson, S., Baldwin, J., Barna, W., Bastlen, V., Bedda, F., Bandwin, J., Barna, W., Bastlen, V., Bedda, F., Boguslavkly, L., Boukhgalter, B., Brown, A., Burkett, G., Campopiano, A., Castle, A., Choepel, Y., Colangelo, M., Collins, S., Collymore, A., Cooke, P., DeArellano, K., Dewar, K., Diaz, J.S., Dodge, S., Domino, M., Doyle, M., Ferreira, P., Fitzhugh, W., Gage, D., Galagan, J., Gardyna, S., Ginde, S., Goyette, M., Graham, L., Grand-Pierre, N., Grant, G., Hagos, B., Heaford, A., Horton, L., Howland, J.C., Iliev, I., Johnson, R., Jones, C., Kant, L., Karatas, A., Klein, J., LaRocque, K., Lamazres, R., Landers, T., Lehoczky, J., Levine, R., Lieu, C., Liu, G., Locke, K., Macdonald, P., Marquis, N., McZarthy, M., McEwan, P., McGurk, A., McKernan, K., Menheeters, R., Meldrim, J., Meneus, L., Mihova, T., Miranda, C., Menga, V., Morrow, J., Murphy, T., Naylor, J., Norman, C. H., O'Connor, T., O'Donnell, P., O'Neil, D., Olivar, T. M., O'Herson, K., Pierre, N.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      70206 bp DNA linear HTG 13-JUL-2000 22 clone RP11-51H9 map 22, LOW-PASS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                    2820
                                                                                                                                                 2940
                                                                                                                                                                                                                                                                                             2821 GGAGCGACGAGAAATGGAAAAAAGCTTTAAAGCAGAAGTCAAATCCCAAATTGATTCAC 2880
                                                                                                                                                                     cattggaaaaaagttaaatttttgtgtttcaattcaatgtgtacaacattttctggaaaa 3240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 3241 cgcctaaccaaggaagaatggaatcaatttgttaatgaaataaaagtttgaattatagaa 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   tgtcacaatttgaaaacaagaaaaccaaagaatggttaatgaatcactggaaaaagaacg 3000
                 2761 CAGANTATAGTCAAATTTCAACAAAAGGAAAGGACCCAGCTGGTTTGAGAAAACGAGGT
                                                                                                                                               tgaaatggtttctcctaaaagaaaacgaatatttaggacaaagaatggaaaaatggact
                                                                         ggagcgacgagaaatggaaaaaatggtttaaagcagaagtcaaatcccaaattgattcac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 (bases 1 to 70206)
Birren, B., Linton, L., Nusbaum, C. and Lander, E.
Homo sapiens chromosome 22, clone RPil-51H9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens chromosome
SEQUENCE SAMPLING.
AC067910
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AC067910.1 GI:7652049
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HTG; HTGS_PHASE0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AC067910
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 3
AC067910/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
TITLE
JOURNAL
REFERENCE
                                                                                                                                                                                  2881
                                                                                                                                                                                                                       2941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3121
2761
                                                                       2821
                                                                                                                                                                                                                                                                                                                                                                                                                                               3121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
```

```
Pisani,C., Pollara,V., Raymond,C., Riley,R., Rogov,P., Rothman,D., Roy,A., Santos,R., Schauer,S., Severy,P., Spencer,B., StangerThomann,N., Stojanovic.N., Subramanian,A., Talamas,J., Tesfaye,S., Theodore,J., Tirrell,A., Travers,M., Trigilio,J., Vassiliev,H., Viel,R., Vo,A., Wilson,B., WuxX., Wyman,D., Ye,W.J., Young,G., Zainoun,J., Zimmer,A. and Zody,M.

Direct Submission

Submitted (27-APR-2000) Whitehead Institute/MIT Center for Genome Research, 320 Charles Street, Cambridge, MA 02141, USA
All repeats were identified using RepeatMasker:
Smit, A.F.A. & Green, P. (1996-1997)
http://ftp.genome.washington.edu/RW/RepeatMasker.html
                                                                                                                                                                                                                                      Center: Whitehead Institute/ MIT Center for Genome Research
                                                                                                                                                                                                                                                                                                                                                                                             sequencing reads that have not been assembled into contigs. Runs of N are used to separate the reads and the order in which they appear is completely arbitrary. Low-pass sequence sampling is useful for identifying clones that may be gene-rich and allows overlap relationships among clones to be deduced. However, it should not be assumed that this clone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            will be sequenced to completion. In the event that
the record is updated, the accession number will
                                                                                                                                                                                                                                                                                   Contact: sequence_submissions@genome.wi.mit.edu
------ Project Information
Center project name: L7007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 14600: gap of 100 bp 15305: contig of 705 bp in length 15405: gap of 100 bp 16114: contig of 709 bp in length 16214: gap of 100 bp 16914: contig of 700 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100 bp
of 724 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0 bp
704 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         00 bp
692 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             737 836: gap of 100 bp 1561: contig of 725 bp in length 1562 1661: gap of 100 bp 1662 2378: contig of 717 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100 bp
[717 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100 bp
f 705 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0 bp
704 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        00 bp
716 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  contig of 724 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                736: contig of 736 bp in length
                                                                                                                                                                                                                                                                                                                                                                                NOTE: This record contains 87 individual
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        00 bp
713 bp in 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ap of 100 bp 100 contig of 702 bp 11 lp bp 100 bp 11 contig of 690 bp 11
                                                                                                                                                                                                                                                                        Web site: http://www-seq.wi.mit.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               00 bp
697 bp i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               contig of 712 bp
p of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   oţ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            contig of
                                                                                                                                                                                                                                                                                                                                               Center clone name: 51_H_9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cont ; gap of 15305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           con,
, gap of
14500:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cor.
. gap of
13710:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10572: gap of
11284: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   12208: gap of
12910: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               11384: gap of
12108: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3202: con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3: gap of
8017: con
7: gap of
8833: con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2: gap of 4006: con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ō
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5: gap of 7213: cor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4898: gar
5611: c
                                                                                                                                                                                                                                                         code: WIBR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4106: gap
4798:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6416:
```

```
16915 17014: gap of 100 bp 1722: contig of 708 bp in length 17723: 1822: gap of 100 bp 17823 18217: contig of 695 bp in length 18517: contig of 695 bp in length 18518 18617: gap of 100 bp 18518 18677: gap of 100 bp 19430 20132 contig of 712 bp in length 1930 19429: gap of 100 bp 20133 2025: gap of 100 bp 2055: contig of 723 bp in length 20956 21055: gap of 100 bp 2055: contig of 723 bp in length 21056 2165: gap of 100 bp 21863 22560: contig of 698 bp in length 22561 22660: gap of 100 bp 22661 22660: gap of 100 bp 22661 23351: contig of 691 bp in length 23552 23451: gap of 100 bp 22661 2455. contig of 694 bp in length 23452 241452. contig of 694 bp in length 23452 241452. contig of 694 bp in length 23452 241452. contig of 694 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            23392 27491: gap of 100 bp 22482 2891: gap of 100 bp 28288 28931: contig of 696 bp in length 28288 28933: contig of 706 bp in length 28994 29093: gap of 100 bp 28980 28999: contig of 706 bp in length 29900 39629: contig of 730 bp in length 30530 30529: contig of 730 bp in length 30530 31418: contig of 689 bp in length 31419 31518: gap of 100 bp 31418: contig of 689 bp in length 31419 31518: gap of 100 bp 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     32301 32300; control of 0.0 bp
32301 33300; gap of 100 bp
33003 3102; gap of 100 bp
33003 3102; gap of 100 bp
33083 33882; gap of 100 bp
34682 34681; gap of 100 bp
3588 34681; gap of 100 bp
3588 34681; gap of 100 bp
3588 3682; contig of 699 bp in length
3588 3682; contig of 701 bp in length
3588 36178; contig of 701 bp in length
3588 36178; gap of 100 bp
36179 36278; gap of 100 bp
36279 37098; contig of 720 bp in length
3639 37098; gap of 100 bp
37099; 37805; contig of 707 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       46 24245; gap of 100 bp 105 bp 105 bp 105 bp 105 bp 105 bp 106 bp 105 bp 106 bp 107 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        06 37905: gap of 100 bp 100 bp 11 2520: gap of 100 bp 12 38720: gap of 100 bp 12 39524: gap of 100 bp 12 39524: gap of 100 bp 100 bp 12 40243: gap of 100 bp 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           43578; gap of 100 bp 44282; contig of 704 bp in length 44382; gap of 100 bp 45080; contig of 698 bp in length 45180; gap of 100 bp 45994; contig of 714 bp in length 45994; gap of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        151: gap of 100 bp
42658: contig of 707 bp in length
158: gap of 100 bp
43478: contig of 720 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          43479 43578: gap of
43579 44282: contig
44283 44382: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        con.
32200: C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           . con.
.u: gap of
37805: ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17806 37905: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                / 25856: gar
7 26568:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        41951:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      45081 45180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          42758
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        11049
```

3

```
Homo sapiens chromosome 4 clone RP11-27013, WORKING DRAFT SEQUENCE, ACO27625
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The sequence of Homo sapiens clone Unpublished 2 (bases 1 to 165868)
2 (bases 1 to 165868)
Waterston, R. H.
Direct Submission
Submitted (30-MAR-2000) Genome Sequencing Center, Washington University School of Medicine, 4444 Forest Park Parkway, St. Louis, MO 63108, USA
On Jun 9, 2001 this sequence version replaced 91:9838122.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 165868)
Waterston, R.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Center: Washington University Genome Sequencing Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ------ Genome Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 70206;
                                                                               47647
47646: gap of 100 bp
47647
48351 (app of 100 bp
48351 (app of 100 bp
48451 (app of 100 bp
48161 (app of 100 bp
48167 (app of 100 bp
50786 (app of 100 bp
50886 (app of 100 bp
51883 (app of 100 bp
51883 (app of 100 bp
51883 (app of 100 bp
52485 (app of 100 bp
52486 (app of 100 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequencing vector: M3: 40%
Sequencing vector: M3: 40%
Sequencing vector: plasmid: 60%
Chemistry: Dye-primer ET; 40% of reads
Chemistry: Dye-primer ET; 40% of reads
Assembly program: Phrap; version 0.990319
Consensus quality: 165541 bases at least Q30
Consensus quality: 165729 bases at least Q30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HTG; HTGS_PHASE1; HTGS_DRAFT; HTGS_ACTIVEFIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3.3e-08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 40; DB 2;
                           46807; gap of 100 bp
47,546; contig of 739 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       contig of 713 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AC027625.4 GI:14333966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Center code: WUGSC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 40; Conserv
45995
46708
46808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AC027625/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
AUTHORS
TITLE
JOURNAL
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
```

ö

```
Center project name: bA307017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          50258 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 6
AC096541/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HTG 05-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
I (bases 1 to 186562)
Williams.S.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens chromosome 1 clone RP11-307017, *** SEQUENCING IN PROGRESS ***, 2 unordered pieces.
AL451079 AC025875
AL451079.6 GI:159870^4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Submitted (04-OCT-2001) Sanger Centre, Hinxton, Cambridgeshire, CB10 1SA, UK. E-mail enquiries: humquery@sanger.ac.uk Clone requests: clonerequest@sanger.ac.uk
On Oct 8, 2001 this sequence version replaced gi:15591231
Draft Sequence Produced by Whitehead Institute/MIT Center for Genome Research, 320 Charles Street, Cambridge, MA 02141, USA
http://www.seq.wi.mit.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AL451079.6 GI:15983906
HTG; HTGS_PHASE1; HTGS_ACTIVEFIN; HTGS_DRAFT; HTGS_FULLTOP.
                                                                                                    * NOTE: This is a 'working draft' sequence. It currently consists of 2 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary daps between the contigs are represented as "tuns of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 1.2%; Score 40; DB 2; Length 165868; Best Local Similarity 100.0%; Pred. No. 2.9e-08; Matches 40; Conservative 0; Mismatches 0; Indels 0
Consensus quality: 165743 bases at least Q20
Insert size: 168000; agarose-fp
Insert size: 165398, sum-of-contigs
Quality coverage: 11.53 in Q20 bases; agarose-fp
Quality coverage: 11.63 in Q20 bases; sum-of-contigs
                                                                                                                                                                                                                                                                    57897: contig of 57897 bp in length
57997: gap of unknown length
165868: contig of 107871 bp in length.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1. 57897
/note="assembly_name:Contig5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               'note="assembly_name:Contig6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     vector_side:left"
32516 c 32464 g 52293 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Contact: humquery@sanger.ac.uk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Center code: SC
Web site: http://www.sanger.ac.uk
                                                                                                                                                                                                                                                                                                                                                                   /organism="Homo saplens"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                             /clone="RP11-27013"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          vector_side:right"
                                                                                                                                                                                                                                                                                                                                                                                                           /chromosome="4"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        clone_end:SP6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     clone_end:T7
                                                                                                                                                                                                                                                                                                                                                     1. .165868
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            57998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                .57898
57998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       48495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AL451079
                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOURCE
```

```
AC096541 BONA Linear HTG 18-SEP-2001 HOMO Sapiens chromosome 1 clone RP11-330M19, WORKING DRAFT SEQUENCE, 4 unordered pleces.
AC096541 AL359084 AC096541.1 GI:15638689 HTGS_PHASEI; HTGS_PRAFT; HTGS_FULLTOP; HTGS_ACTIVEFIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 200898) Raul, R.K., Olson, M.V., Raymond, C., Clendenning, J. and Haugen, E.D. Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Z (bases I to 200898)
Kaul, R. K., Olson, M. V., Raymond, C., Clendenning, J. and Haugen, E. D. Direct Submission
Submitted (18 - SEP-2011) Genome Center, University of Washington, Box 352145, Seattle, WA 98195, USA
On Sep 18, 2001 this sequence version replaced gi:12331065.
Assembly program: XGAP4; version 4.5
Sequencing vector: M13; M71815; 25% of reads
Sequencing vector: M13; M71815; 25% of reads
Sequencing vector: plasmid; L08752; 73% of reads
Consensus quality: 185620 bases at least 040
Consensus quality: 185620 bases at least 040
Consensus quality: 185185 bases at least 030
Consensus quality: 186189 bases at least 030
Insert size: 186462; sum-of-contigs
Insert size: 137846; 9.6% error; agarose-fp
Quality coverage: 13.37x in 020 bases; sum-of-contigs Quality
coverage: 13.42x in 020 bases; agarose-fp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                         * NOTE: This is a 'working draft' sequence. It currently consists of 2 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 186562;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2202 2301: gap of 100 bp
2302 186562: contig of 184261 bp in length.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          102 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2201: contig of 2201 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1.0%; Score 34; DB 2; Le
100.0%; Pred. No. 2e-05;
Live 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /clone_lib="RPCI-11.2"
1. .2201
/note="assembly_fragment:00529"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Db 27017 GAAGGAGAAGGGGAAGGAAAGAAAG 27050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1533 gaaggagaaggagaaggggaaggaaggagaag 1566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             vector_side:right"
43749 c 43919 g 48534 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Homo sapiens"
/db_xref="taxon:9606"
/chromosome="1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /clone-"RP11-307017"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualiflers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity 100.
Matches 34; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
```

```
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                Direct Submission
Submitted (08-NOV-2001) Wellcome Trust Sanger Institute, Hinxton,
Cambridgeshire, CB10 15A, UK. E-mail enquiries:
humquery@sanger.ac.uk Clone requests: clonerequest@sanger.ac.uk
On Nov 15, 2001 this sequence version replaced gi:16754763.
Center: UK Medical Research Council
                                                                                                                                                                                                                                                                                                                                                                                                                                  Assembly program XGAP4; version 4.5 Sequencing vector: plasmid: L08752; 100% of reads chemistry: Dye-terminator Big Dye; 100% of reads consensus quality: 224286 bases at least Q40 consensus quality: 22463 bases at least Q30 consensus quality: 22463 bases at least Q20 Insert size: 225409; sum-of-contigs insert size: 216124; 7.8% error; agarose-fp quality coverage: 11.91x in Q20 bases; sum-of-contigs outlity coverage: 11.91x in Q20 bases; sum-of-contigs quality
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         * NOTE: This is a 'working draft' sequence.
* This record will be updated with the finished sequence
* as soon as it is available and the accession number will
* be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 225609;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           216 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            101758. .190829
/note="assembly_fragment:02144.0"
190930. .225609
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1.0%; Score 34; DB 2; Le
100.0%; Pred. No. 1.9e-05;
ive 0; Mismatches 0;

        Qy
        1533
        gaaggagaaaggagaaggagaagggaaaggagaag
        1566

        Db
        101565
        GAAGGAGAAGGAGAAGGGGAAGGAAAGGAGAAAG
        101532

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       'note="assembly_fragment:01246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   'note="assembly_fragment:03429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA
                                                                                                                                                                                                                                                                                             Center code: UK-MRC
Web site: http://mrcseq.har.mrc.ac.uk
Contact: mouseq@har.mrc.ac.uk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           44739 g 69047 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 21 from Patent W00168912.
AX251053
AX251053.1 GI:15984476
                                                                                                                                                                                                                                                                                                                                                                     Project Information
                                                                                                                                                                                                                                                                                                                                                                                         Center project name: bM124G18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Mus musculus"
/db_xref="taxon:10090"
/chromosome="13"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /clone="RP23-124G18"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /clone_lib="RPCI-23"
1. .101657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 rector_side:right"
45409 c 44739 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                vector_side:left"
101758. .190829
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               clone_end:SP6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           clone_end:T7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   synthetic construct.
synthetic construct
artificial sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity
Matches 34; Conserv
                                                                          (sites)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           66198 a
                                                                                              Sims.S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
ORGANISM
                                                                    REFERENCE
AUTHORS
                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AX251053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                     TITLE
                                                                                                                                                                                                                      COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  rocus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AL645546 225609 bp DNA linear HTG 13-NOV-2001 Mus musculus chromosome 13 clone RP23-124G18, *** SEQUENCING IN PROGRESS ***, in unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                     Sequencing vector: plasmid; 38% of reads
Sequencing vector: plasmid; L08752; 62% of reads
Chemistry: Dye-terminator ET; 89% of reads
Chemistry: Dye-terminator ET; 89% of reads
Chemistry: Dye-terminator Big Dye; 11% of reads
Assembly program: Phrap; version 0.990319
Consensus quality: 199175 bases at least Q40
Consensus quality: 19939 bases at least Q30
Consensus quality: 200341 bases at least Q20
Insert size: 200598; sum-of-contigs
Quality coverage: 9.5x in Q20 bases; sum-of-contigs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NOTE: This is a 'working draft' sequence. It currently consists of 4 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 200898;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2137: contig of 2137 bp in length 2237: gap of unknown length 29137: contig of 26900 bp in length 29237: gap of unknown length 55080: contig of 25843 bp in length 55180: gap of unknown length 200898: contig of 145718 bp in length.
                      Center: University of Washington Genome Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  304 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /clone_lib="RPCI human BAC library 11"
1. 2137
                                             Center Code: UWGC
Web site: http://www.genome.washington.edu
                                                                                                                                                                Center project name: chr-1
Center clone name: RP11-330M19 (sc0667)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2338. 29137 -- Archote-assembly_name:Contigl9" 29238. 55080 /note-"assembly_name:Contig20" 55181. 200898 /note-"assembly_name:Contig21" a 49279 c 48900 g 52334 t 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 1.0%; Score 34; DB 2; Best Local Similarity 100.0%; Pred. No. 2e-05; Matches 34; Conservative 0; Mismatches (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note="assembly_name:Contig18"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Contact: uwgchtgs@u.washington.edu
                                                                                                                                         -- Project Information
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Homo sapiens"
/db_xref="taxon:9606"
/chromosome="1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /clone="RP11-330M19"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
---- Genome Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AL645546
AL645546.4 GI:16944328
HTG; HTGS_PHASE1.
                                                                                                                       Drafting Center: SC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .200898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2138
2238
29138
29238
55081
55181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               50081 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_feature
```

source

FEATURES

BASE COUNT

ö

Gaps

ö

Indels

PAT 05-OCT-2001

linear

house mouse

VERSION

RESULT 7 AL645546/C DEFINITION ACCESSION KEYWORDS SOURCE

```
/note="MER411 c'
                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              80131, ITALY
                                                        ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                                                                                                human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
    source
                                                                                                                                                                                                                                 RESULT 11
HSA271735
LOCUS
                                                      BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                        ACCESSION
VERSION
                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
                                                                                                                                                                                                                                                                                                                    KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
                                                                                                                                                                                                                                                                                                                                                SOURCE
                                                                                                                                                                οy
                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-FEB-2002
                                                                                                                                                                                                                                                                                                                                                            PAT 05-OCT-2001
           Olek, A., Piepenbrock, C. and Berlin, K.
Diagnosis of diseases associated with tumor suppressor genes and
oncogenes
                                                                                      10.6862

/organism="synthetic construct"

/db_xref="taxon:32630;

/note="chemically treated genomic DNA (Homo sapiens)"

518 c 2176 g 2890 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 // . .6862
/organism="synthetic construct"
/db_xref="taxon:32630"
/note="chemically treated genomic DNA (Homo sapiens)"
a 518 c 2176 g 2890 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Olek, A., Piepenbrock, C. and Berlin, K. Diagnosis of diseases associated with the immune system Patent: WO 0200928-A 195 03-JAN-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                         Synthetic construct
artificial sequence.
1 (bases 1 to 6862)
Olek, A., Piepenbrock, C. and Berlin, K.
Diagnosis of diseases associated with the cell cycle
Patent: WO 0168911-A 37 20-SEP-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1.0%; Score 33; DB 6; Length 6862; 100.0%; Pred. No. 9e-05; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                         Length 6862;
                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                      Ouery Match 1.0%; Score 33; DB 6; Best Local Similarity 100.0%; Pred. No. 9e-05; Matches 33; Conservative 0; Mismatches C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA
                                                                                                                                                                                                                                                                                                                                                            DNA
                                                   Patent: WO 0168912-A 21 20-SEP-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 195 from Patent WO0200928.
                                                                                                                                                                                                                                                           gaaaaaatttttttttttttttttttttttgtt 224
                                                                                                                                                                                                                                                                                      853 GAAAAAATTTTTTTTTTTTTTTTTTTTTTTTT
                                                                                                                                                                                                                                                                                                                                                          AX251776 6862 bp
Sequence 37 from Patent WO0168911.
AX251776
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Epigenomics AG (DE)
Location/Qualifiers
                                                                  Epigenomics AG (DE)
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AX345124.1 GI:18493010
                                                                                                                                                                                                                                                                                                                                                                                                  AX251776.1 GI:15985131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         synthetic construct.
synthetic construct
artificial sequence.
1 (sites)
 (bases 1 to 6862)
                                                                                                                                                                                                                                                                                                                                                                                                                              synthetic construct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Epigenomics AG (DE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             33; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ø
                                                                                                                                                   ø
                                                                                                                                                  1278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
ACCESSION
                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                 BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                      DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
JOURNAL
                                                                                                                                                                                                                                                            192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 10
AX345124
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS
                                                     JOURNAL
                                                                                                                                                                                                                                                                                                                                RESULT
AX251776
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
                                                                              FEATURES
                           TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOURCE
                                                                                                                                                                                                                                                            ô
                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  qq
```

```
PRI 07-JUL-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ciccodicola, A. Direct Submission Submitted (28-JUL-1999) A. Ciccodicola, International Institute of Genetics and, Blophysics (IIGB-CNR), Via P. Castellino 111, Napoli,
                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

1 (bases 1 to 24000)

Ciccodicola, A., D'Esposito, M., Esposito, T., Gianfrancesco, F., Mujlaccio, C., Miano, M.G., Matarazzo, M.R., Vacca, M., Franze, A., Cocchia, M., Curci, A., Terracciano, A., Torino, A., Cocchia, S., Mercadante, G., Pannone, E., Archidiacono, N., Rocchi, M., Differentially regulated and evolved genes in the fully sequenced XQTY pseudoautcoomal region

20122249

20122249
1. .6862
/organism="synthetic construct"
/db_xref="taxon:32630"
/note="chemically treated genomic DNA (Homo sapiens)"
a 518 c 2176 g 2890 t
                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                            AJ271735.1 GI:8979788 repeat region; repetitive DNA; sprouty (Drosophila) homolog SPRY3 gene.
                                                                                                                                                                                                                      ö
                                                                                                                                                                             Length 6862;
                                                                                                                                                                                                                                                                                                                                                                                                                   HSA271735 240000 bp DNA linear
Homo sapiens Xq pseudoautosomal region; segment 1/2
AJ271735 Y19189
                                                                                                                                                                                                                        Indels
                                                                                                                                                                           Query Match
1.0%; Score 33; DB 6; Le
Best Local Similarity 100.0%; Pred. No. 9e-05;
Matches 33; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                               192 gaaaaaattttttttttttttttttttttgt 224
                                                                                                                                                                                                                                                                                                          1. .240000
/organism="Homo sapiens"
/db_xref="taxon:9606"
/chromosome="X"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note="Alux d"
1232. 1515
/note="HERVL d"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1546. .1716
/note="HERVL d"
1718. .1912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note="Alusc d"
1983. .2379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1983. .2379
/note="HERVL d"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              l. 176
/note="DXS1108"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  96. .157
/note="HERVL d"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           768. .1074
/note="HERVL d"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  160. .678
/note="MLT1H c"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         33. .83
/note="(AC) d"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /map="Xq28"
```

	5267. 55702 5799. 5792 5799. 51785 6715. 5939 6515. 6933 6615. 6933 6704e="LIMB7" 6715. 7075 7004e="LIMB7" 7123. 7183 7006="LIMB7" 7123. 7183 7006="LIMB7" 7183. 7868 7006="LIMB7" 7183. 7868 7006="LIMB7" 7006="LIMB7" 7183. 7868 7004e="LIMB7" 7006="LIMB7" 7183. 7868 7004e="LIMB7" 7006="LIMB7"	19. 11947 C 19. 11947 C 19. 11948 C 19. 12598 C 10. 13027 C 10. 13027 C 11. 14702 C 11. 14702 C 11. 14702 C 12. 119 MA2 C 13. 15964 C 13. 15964 C 14. 15964 C 15. 15. 15. 15. 15. 16. 12. 16. 16. 16. 16. 16. 16. 16. 16. 16. 16	
1 1 1 1 1 1 1	repeat_region		repeat_region repeat_region repeat_region repeat_region repeat_region repeat_region repeat_region repeat_region

MERS	(735)(2735)(28656)(29705)(29923)	- 11102 - 13407 - 14008 - 1407 - 1407 - 1407 - 1407
epeat_regi epeat_regi epeat_regi epeat_regi epeat_regi epeat_regi	repeat_region	r. regi

```
RS Muzny, D. M. Addano, C., Adio-Oduola, B., Ali-Osman, F. R., Allen, C., Albarcoks S. L., Amaretunge, H. C., Are, J. R., Banks, T., Barbaria, J., Babrooks, S. L., Amaretunge, H. C., Are, J. R., Banks, T., Barbaria, J. Babrooks, S. L., Amaretunge, H. C., Are, J. R., Banks, T., Barbaria, J. Banton, J. Bimage, K., Blankenburg, K., Bonnin, D., Bouck, J., Burkett, C., Burrell, K.L., Bydy, N. C., Carron, T. B., Burkett, C., Burrell, K.L., Bydy, N. C., Carron, T. B., Chen, Z., Cheddhry, I. Christopoulos, C., Cleveland, C. D., Cox, C., Coyle, M. D., Dathorne, S. R., David, R., Davila, M. L., Davis, C., Denn, A. L., Ding, Y., Duth, H. H., Douthwaite, K.J., Draper, H., Dugan, Rocha, S., Durbin, K. J., Earnhart, C., Edgar, D., Edwards, C., Elhaj, C., Escotto, M., Falls, T., Ferraguco, D., Edgar, D., Edwards, C., Elhaj, C., Escotto, M., Falls, T., Ferraguco, D., Edgar, D., Edwards, C., Elhaj, C., Escotto, M., Ealls, T., Harris, C., Lu, W., July, C., Lu, K., Lucier, R., July, C., Lu, C., Lu, C., Lucier, R., Luna, R., Martindal, H., Lozado, R., Martindal, P., Martindar, M., Marsey, E., Martin, P., Martin, C., Harris, C., Martin, M., Marsey, E., Martin, P., Marcin, C., Lu, C., Harris, C., Martin, C., Lu, C., Martin, C., Scherer, S., Saver, C., Scherer, S., Saver, C., Scherer, S., Saver, C., Saver, C., Scherer, S., Wartin, C., Martin, C., Martin, C., Mart
                                                                                                                                                                                                                                                                                                                                                            AC096301 246176 bp DNA linear HTG 20-DEC-2001
Rattus norvegicus chromosome Rfl clone CH230-233D20, WORKING DRAFT
SEQUENCE, 33 unordered pieces.
                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Craniata; Vertebrata; Euteleostomi;
Sciurognathi; Muridae; Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (17-SEP-2001) Human Genome Sequencing Center, Departmen of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA
On Dec 20, 2001 this sequence version replaced gi:17062231.
                                                                      Gaps
                                                                      ;
0
      Length 240000;
                                                                      0; Indels
1.0%; Score 33; DB 9; LF
100.0%; Pred. No. 5.7e-05;
11ve 0; Mismatches 0;
                                                                                                                                                                                           Db 190008 GAAGGGGAAGGAGAAGGAGAAGGAGAA 190040
                                                                                                                               Oy 1527 gaaggggaaggaaggagaaggggaaggaga 1559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AC096301.4 GI:17943998
HTG; HTGS_PHASE1; HTGS_DRAFT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ---- Genome Center
                                 Local Similarity 100.
nes 33; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Norway rat.
Rattus norvegicus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Worley, K.C.
                                                                                                                                                                                                                                                                                                                                                        AC096301
      Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
JOURNAL
REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                         RESULT 1
AC096301
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
```

```
NOTE: Estimated insert size may differ from sequence length (see http://www.hgsc.bcm.tmc.edu/docs/Genbank_draft_data.html).
NOTE: This is a "working draft' sequence. It currently consists of 33 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                 Consensus quality: 227668 bases at least Q40
Consensus quality: 231229 bases at least Q30
Consensus quality: 233891 bases at least Q20
Estimated insert size: 229594; sum-of-contigs estimation
Quality coverage: Ox in Q20 bases; agarose-fp estimation
Quality coverage: 4.9x in Q20 bases; sum-of-contigs estimation
                                                                                             -------- Summary Statistics
Assembly program: Phrap; version 0.990329First call to
                                                                                                                                                                                                                                                                                                                                                                                                            f unknown length
g of 18339 bp in length
f unknown length
of 16946 bp in length
f unknown length
g of 15559 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          of 12531 bp in length funknown length and in length gof 1184 bp in length unknown length of 8176 bp in length
                                                                                                                                                                                                                                                                                                                                                                    contig of 25258 bp in length
gap of unknown length
contig of 22888 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        unknown length
of 10510 bp in length
unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                of 12063 bp in length
unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       bp in le
length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        length.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          of 2387 bp in l
unknown length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               length
                     Web site: http://www.hgsc.bcm.tmc.edu/
Contact: hgsc.help@bcm.tmc.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ф
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            рb
Center: Baylor College of Medicine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9565
                                                              Center project name: GEWU
Center clone name: CH230-233D20
------ Summary Statistics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of 7445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           of 4458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4728
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ō
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             οĘ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  οĘ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  οĘ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ō
                                                                                                                                                                                                                                                                                                                                                                                                                        contig
gap of
contig
contig
contig
contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gap of
contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gap of
contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gap of
contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gap of
contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          contig
gap of
                                                                                                                                                                                                                                                                                                                                                                                                               gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       contiq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gap of
                                                                                                                                                                                                                                                                                                                                                                                                                          66685:
66785:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          228107:
228207:
            Center code: BCM
                                                                                                                                                                                                                                                                                                                                                                                                  48246:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                83831:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99390:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .22263:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           34894:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   146878:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    23151:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          62699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            186883
                                                                                                                     findPhrapList
                                                                                                                                                                                                                                                                                                                                                                                                                                     66686
66786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                83732
83832
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           134795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   146779
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              155055
155155
162600
162700
172265
172365
180467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  193291
193391
200295
200395
                                                                                                                                                                                                                                                                                                                                                                                  25259
                                                                                                                                                                                                                                                                                                                                                                                               25359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       186884
186984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              215487
```

228108

```
213882
217265
219364
220725
221959
                                                                                                                                                                                                                                                                                                                                         123707
131852
139051
144651
53054
                                                                                                                                                                                                                                                                                                                  06273
15022
                                                                                                                                                                                                                                                                                                                                                                                                                              73208
                                                                                                                                                                                                                                                                                                                                                                                                                                                      83688
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      201316
206019
210132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          96912
                                                                                                                                                                                                                                                                                                                                                                                                                    65837
                                                                                                                                                                                                                                          40854
53894
65112
75325
84915
                                                                                                                                                                                                                                                                                                       6449
                                                                                                                                                                                                                    5322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HTG 08-AUG-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Submitted (18-APR-2000) Masahira Hattori, The Institute of Physical and Chemical Research (RIKEN), Genomic Sciences Center (GSC); 1-15-1 Kitasato, Sagamihara, Kanagawa 228-8555, Japan (E-mail:hattoriegscriken.go.jp, URL:http://hgp.gsc.riken.go.jp/, Tel:81-42-778-9923, Fax:81-42-778-9924)
On Aug 9, 2000 this sequence version replaced gi:8117511.
                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases I to 224010)
Hattori,M., Ishli,K., Toyoda,A., Taylor,T.D., Hong-Seog,P., Fujiyama,A., Yada,T., Totoki,Y., Watanabe,H. and Sakaki,Y. Published Only in DataBase (2000) In press 2 (bases I to 224010)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   424010 bp DNA linear HTG 08-AUG-20 DRAFT SEQUENCE, 32 unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hattori,M., Ishii,K., Toyoda,A., Taylor,T.D., Hong-Seog,P.
Fujiyama,A., Yada,T., Totoki,Y., Watanabe,H. and Sakaki,Y.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                     Length 246176;
                                                                                                                                                                                                                                                                                                        3346 others
                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                                                                                                                                                                    in length
                                              bp in length
                                                                                                                                                                                                                    in length
                                                                       in length
                                                                                             in length
                                                                                                                      in length
                                                                                                                                              in length
                                                                                                                                                                                            in length
                                                                       bp in l
length
                                                                                                                                                                                 Length
                                   Length
                                                                                                                                                                                                         length
                                                            length
                                                                                                           length
                                                                                                                                    length
                                                                                                                                                           length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ------ Genome Center
Center: RIKEN Genomic Sciences Center(GSC)
                                                                                                                                                                                                                                                                                                                                                      DB 2; Le
                                                                                                                                                                                                                                                                                                                                                                                                                    /organism="Rattus norvegicus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /clone="CH230-233D20"
55496 c 55272 g 66413 t
                                                                                                                                                                                                        unknown
of 1225
                                                                                                                                                                                                                                                                                                                                                                                                       1534 aaggaagaaggagaagggaaggaggagaag 1566
                                                                                              2299
                                                                                                                                                                                             1056
                                                                                                                                                                                                                                                                                                                                                      1.0%; Score 33; DB 100.0%; Pred. No. 5.7
Live 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AP001848.3 GI:9757461
HTG; HTGS_PHASE1; HTGS_DRAFT.
HOmo sapiens DNA, clone:RP11-814018.
                                                                                                                      of 1800
                                   unknown
                                               1408
                                                            unknown
                                                                       1916
                                                                                   unknown
                                                                                                           unknown
                                                                                                                                    unknown
                                                                                                                                              1685
                                                                                                                                                            unknown
                                                                                                                                                                      of 1051
                                                                                                                                                                                 unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Center project name: HumDraft18
Center clone name: RP11-814018
                                                                                                                                                                                                                                                                   /db_xref="taxon:10116"
                                                οĘ
                                                                       οţ
                                                                                                                                                                                               oĘ
                                gap of contig
                                                                                                                                           contig
gap of
                                                                                                                                                                                                                                Location/Qualifiers
                                                                                  gap of
contig
                                                                                                          gap of
contig
                                                                                                                                                                                 gap of
contig
                                                                                                                                                                                                                   contig
contig
                       contig
                                                                                                                                                                                                          gap of
                                                                                                                                    gap of
                                                                                                                                                                                                                                                                                 /chromosome="Rf1'
                                                                                                                                              242544:
                                                                                                                                                        242644:
                                                                                                                                                                      243695:
                                                                                                                                                                                             244851:
                                                                                                                                                                                                         244951:
                       232936:
                                                         234544:
                                                                                                           238959:
                                                                                                                                                                                                                   246176:
                                 233036:
                                                                       236460:
                                                                                  236560
                                                                                                                      240759
                                                                                                                                  240859
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 code: RIKEN
                                                                                                                                                                                                                                                                                                                                                                             33; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                        234445
2344545
236461
2388860
240760
240860
242845
242845
243645
243696
243896
                                 232937
                                                                                                                                                                                                                   244952
                                                                                                                                                                                                                                                                                                       65649 a
                                                                                                                                                                                                                                            source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LOCUS
                                                                                                                                                                                                                                                                                                     BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 13
AP001848
                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                       ŏ
```

```
NOTE: This is a 'working draft' sequence. It currently consists of 32 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence
                                                   Chemistry: Dye-terminator ET-amersham; 100% of reads Assembly program: Phrap; version 0.990329
Consensus quality: 212358 bases at least Q40
Consensus quality: 215922 bases at least Q30
Consensus quality: 215922 bases at least Q20
Insert size: 220910; sum-of-contigs
Ouality coverage: 9.03x in Q20 bases; sum-of-contigs
                                                                                                                                                                                                                                                                                                                                                                                                                           as soon as it is available and the accession number will be preserved
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NOTE: This is a 'working draft' sequence. It currently consists of 32 contigs. The true order of the pieces is not known and their order in this sequence record is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        84815 84914: gap of 100 bp
84915 96348: contig of 11434 bp in length
96349 96448: gap of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15222 15321: gap of 100 bp 1532 30276: contig of 14955 bp in length 30377 30376: gap of 100 bp 100 b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15221: contig of 15221 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     p of 100 bp contig of 12940 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   o of 100 bp contig of 11118 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 p of 100 bp contig of 10113 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              p of 100 bp
contig of 9490 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14955 bp in length
14955 bp in length
10347 bp in length
11118 bp in length
11118 bp in length
10113 bp in length
1940 bp in length
9724 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   length
length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 in length
                                reads
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ength
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      length
                         Sequencing vector: PCR products; 100% of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         įп
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8649
8585
----- Summary Statistics
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     221 contig of 15221 b) 30276 contig of 149 40753 contig of 129 53793 contig of 129 65011 contig of 101 84814 contig of 94 66372 contig of 94 106172 contig of 97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                220624 contig of 221858 contig of 224010 contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of
of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of
of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     114921 contig of
123606 contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                of
of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              of
of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            oĘ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of
of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 of
of
of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  84815 84914: gap of 84915 96348: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  40754 40853: gap of 40854 53793: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             53894 65011: cont
65012 65111: gap of
65112 75224: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              75324: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               219263 contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                131751 contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     217164 contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15221 contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           84814:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   53794 53893:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                44550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         178488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              201215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   138950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 52953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         183587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                187911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 196811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              205918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     210031
```

```
PFMAL13P3 318221 bp DNA linear HTG 19-AUG-1999 Plasmodium falciparum chromosome 13 strain 3D7, *** SEQUENCING IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Direct Submission
Submitted (15-MAR-1999) P.falciparum Genome Sequencing Consortium,
The Sanger Centre, Wellcome Trust Genome Campus, Hinxton, Cambridge
CB10 1SA, UK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           On May 24, 1999 this sequence version replaced gi:5731882.

For more information about this sequence or the Malaria Project, see http://www.sanger.ac.uk/Projects/P_falciparum. IMPORTANT: This sequence is unfinished and does not necessarily represent the correct sequence. Work on the sequence is in progress and the release of this data is based on the understanding that the sequence may change as work continues. The sequence may be contaminated with foreign sequence from E.coll, yeast, vector,
                                                                                                                             123707. .131751

1023707. .131751

131852. .138952. .138952

103951. .144550

10051. .144550

10051. .152953

10051. .152953

10051. .152953

10051. .152953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ALO49184
ALO49184
ALO49184
ALO49184
ALO49185
ALO49186
ALO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Order of segments is not known; 800 n's separate segments.

* NOTE: This is a 'working draft' sequence.

* This record will be updated with the finished sequence.

* as soon as it is available and the accession number will

* be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 224010;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              27321 g 118405 t 29621 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1.0%; Score 32; DB 2; Le
100.0%; Pred. No. 0.00017;
iive 0; Mismatches 0;

    318221
    /organism="Plasmodium falciparum"

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Db 165693 TTGAAAAAATTTTTTTTTTTTTTTTTTTT 165724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 73054 ...159224

/note="assembly_fragment"

153035 ...165736

/note="assembly_fragment"

165837 ...173107

/note="assembly_fragment"

173208 ...178488

/note="assembly_fragment"

178589 ...183587

/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   190 ttgaaaaaattttttttttttttttt 221
                                           115022. .123606
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROGRESS ***, in unordered pieces
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /strain="3D7"
/db_xref="taxon:5833"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /chromosome="13"
113610 a 29264 c 27321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 32; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        phage etc.
                                                    misc_feature
                                                                                                                                           misc_feature
                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PFMAL13P3/C
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         15322. .30276
/note="assembly_fragment"
30377. .40753
/note="assembly_fragment clone_end:T7 vector_side:left"
40854. .53793
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           217565 217264; gap of 100 bp 217265 219264; gap of 100 bp 219264 219365; contig of 1999 bp in length 219364 220624; contig of 1261 bp in length 220625 220724; gap of 100 bp 220725 221858; contig of 1134 bp in length 221859 221958; gap of 100 bp 221859 221958; gap of 100 bp 221859 221959 224010; contig of 2052 bp in length. Location/Qualifiers
                                                                                                                                                                                                          123706: gap of 100 bp 11 length 131751: contig of 8045 bp in length 131851: gap of 100 bp 13850: contig of 7099 bp in length 139050: gap of 100 bp 144550: contig of 5500 bp in length 144550: gap of 100 bp 152953: contig of 8303 bp in length 153053: gap of 100 bp 15934: gap of 100 bp 15934: gap of 100 bp 165836: contig of 6171 bp in length 165836: contig of 612 bp in length 173107: contig of 7271 bp in length 173207: gap of 100 bp 18368: gap of 100 bp 18368: contig of 4999 bp in length 18368: gap of 100 bp 18368: gap of 18999 bp in length 18991: gap of 18999 bp in length 18368: gap of 18999 bp in length 18368: gap of 18999 bp in length 18988: gap of 18999 bp in length 18999: gap of 18999 bp in length 18998: gap of 18998: gap of 18999 bp in length 18998: gap of 18998: ga
                                           100 bp
8649 bp in length
100 bp
8585 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         87912 186011: qa poff 100 bp 1019 bp 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              110032 210131: gap of 100 bp 110132 213781: contig of 3650 bp in length 113782 213881: gap of 100 bp 113882 217164: contig of 3283 bp in length 117165 217264: gap of 100 bp 117165 217264: gap of 100 bp 117165 217264: gap of 1999 bp in length 117165 217264: gap of 1999 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6018: gap of 100 bp 210031: contig of 4013 bp
9724 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           84915. .96348
/note-"assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                96449. .106172'-
/note="assembly_fragment"
106273. .114921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /organism="Homo sapiens"
/db_xref="taxon 9606"
/chromosome="18"
/map="18pil.2"
/clone="RP11-814018"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         note-"assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /5325. .84814
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note="assembly_fragment"
33894. .65011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="assembly_fragment"
55112. .75224
                                 06173 106272: gap of 06273 114921: contig of
                                                                                                                        021: gap of 23606: contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     73108 173207: gap of 73208 178488: contig of
106172: contig of
                                                                                                                                                                                                                        23607 123706: gap of 23707 131751: conti
                                                                                                                                                                                                                                                                                                31752 131851; gap of 31852 138950; conti
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               65737 165836; gap of 65837 173107; cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       78489 178588: gap of 78589 183587: cont.
                                                                                                                                                                                                                                                                                                                                                                                                          38951 139050:
39051 14455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   225 159324:
                                                                                                                             14922 11502
15022 1236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
```

Gaps

us-09-667-130-1.rge

VERSION

rocus

ò

```
/protein_id="cAB04963.1"
/db_xref="G1:3881431"
/db_xref="SPTREMBL:99XUI8"
/translation="WASHALVLFLLLELLEVALGHFLSKPAPDPRITFNRKLAETLKE
LQDMGLIQAPREPVVAAQGAKKTGGRSLLIKIQQLCHGICTVHADDLHETACMKGLTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RILGSCLNESNLEVMESIGDVNPTAKPVGLNFLNAVVRRDDVEICKLVAEKVSMRTYN
KEKCMOYINIGAMDVLISALGARDSEPLHIALIGITVRDLWAPYNTLDKIFFFIOF
RTFOYLLKTWISDRAYLVLSILALRINHSDSSTECVFKKCADELLKKOFPYLLATKIS
VDVDIYFTNGIVQUILLOVSDDVGLTLMALLTKITKIFAQKSPQSSQTIRNSNFFHFIOKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RILSEAVNMASENIDVSPTOVMHYIHTFLATFLLPILADTLLTADLTTGHQASAAVF
QSEBSSDYFSTSPROYPTDRADEBLYALQKAAKPQFYPRPQONNYGGYGGRP
PROPOPEYS YVGYINRQARRYPVWHYTLJQCVPQRAKHLLATTYGDIPSHFLELVGD
BDWQRQLQVDLLKVRRQATRFYVFVGGNFIGSSDLFNMHHSGQLRQALNNCMSRNG"
join (16513. 16668,16710. 17585)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FNLFGSDGNSWVRRPVGSRYSPKYQCPTVKHGGSVMVWGCFTSTSMGPLRRIQSIMD
RFQYENILETTMRPWALQNVGRGFVFQQDNDPKHTSLHVRSWFQRRRVHLLDWPSQSP
DLNPIEHLWEELERRLGGIRASNADAKFNQLENAWKAIPMSVIHKLIDSMPRRCQAVI
                                                                                                                                                                                                                                                                                                                                                                                    Translation="MTSYSCSWIAETGOOLPWLRSLALCGLKFYKTEFSKIFPSFVNL
DCLDISYSNVSNLQGISNLQNLRQLSRGLERFRAQDLEELFTLKHLAVLDMSIRLKN
ALDANIRVELSCNKVLPELRELDLSGNRMDEDOLEELLESHSLHKIAIYGCGVAPR
NCPIQISYTTYESTIFAIKHMLRIKRAELQSCFQDLHSHLKDYHEMGKLYDVBRCY
YLAVQSMKHLDSPPIFADRLLMDAYYFFYEADCLABIYHHSHRVRQDDISFICKEI
KNVGRNLTANVRTERICNAIISLFSKGASLDKSRLQELALNCMHALESTDQAAHDLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VIKKYQTEKSVALRISPGRPRVTTHRMDRNILRSAREDPHRTATDIQMIISSPNEPVP
SKRTVRRRLQQAGLHGRKPVKKPFISKKNRMARVAWAKAHLRWGRQEWAKHIWSDESK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /translation="MTPPSHRYKNRTNLYDNSFFVRMRSPTLFLLLLLVPLALCHVFS 
EPADLELKSYQALEKSLKEMGLIRANGSPQKACGRSMMMKVQKLCAGGCTIQNDDLT1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /translation="MVKSVGCKNLSLDVKKAIVAGFEQGIPTKMLALQIQRSPSTIWK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /note="contains similarity to Pfam domain: PF01498 (Transposase), Score=208.2, E-value=4.1e-59, N=1" /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    complement(join(25665. .25747,25791. .26085))
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            complement(join(25665. .25747,25791. .26085))
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .30405))
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      complement(join(29614. .29708,30138. .30405))
                                                                                                                                                                                                                                      gene
gene"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cDNA EST yk636911.3 comes from this gene cDNA EST yk636911.5 comes from this gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note="predicted using Genefinder
cDNA EST yk300g5.5 comes from this gene
cDNA EST yk440d9.5 comes from this gene"
                                                                                gene
                                                                                                                                   gene
                                                                                                                                                                                   gene
                                                                                                                                                                                                              gene
                             gene
                                                                                                        gene
                                                                                                                                                           gene
                                                        gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     complement(join(29614. .29708,30138.
                                                                                                                                                                                this
this
this
                                                                                                                             this
this
                                                     this
                                                                             this
                                                                                                        this
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  υνιι(16513. .16668,16710. .17585)
/gene="2C334.4"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="predicted using Genefinder
                                                                                                        from
from
from
from
                                                                                                                                                                                                                                   from
                                                     from
                                From
     from
                                                                                                                                                                                                                                                                                                         /protein_id="CAB04966.1"
/db_xref="G1:3881434"
/db_xref="SPTREMBL:Q9XUI7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /protein_id="CAB04965.2"
/db_xref="G1:18376576"
/db_xref="SPTREMBL:018285"
                                                A EST Yk45099.3 comes f
A EST Yk467f4.3 comes f
A EST Yk49123.3 comes f
A EST Yk49203.3 comes f
A EST Yk28444.5 comes f
A EST Yk28444.5 comes f
A EST Yk41348.5 comes f
A EST Yk41348.5 comes f
A EST Yk45203.5 comes f
A EST Yk49203.5 comes f
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /db_xref="SPTREMBL:Q9U1P6"
     comes
                                comes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /protein_id="CAB04964.2"
/db_xref="G1:5824887"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KSCSTGYTDAGFISACCPSGFVF"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /gene="ZC334.3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /qene="ZC334.3"
                                                                                                                                                                                                                                                                                         /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /qene="ZC334.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /gene="ZC334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DANGYATKY"
                                                                                                                                                                                                                                                           CDNA
                                                                                                                             CDNA
                                                                                                                                                                                CDNA
                                                                                                                                                                                                              CDNA
                                                                                                        CDNA
                                                                          CDNA
                                                                                                                                                                                                                                      CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   635,810. .1122,1172. .1762, .5183,5248. .5356,5644. .5831)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .635,810. .1122,1172. .1762, ..5183,5248. .5356,5644. .5831)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Current sequence finishing criteria for the C. elegans genome sequencing consortium are that all bases are either sequenced unambiguously on both strands, or on a single strand with both a dye primer and dye terminator reaction, from distinct subclones. Exceptions are indicated by an explicit note. This sequence is the entire insert of clone 2C334. The start of this sequence (1. 106) overlaps with the end of sequence AL132902. Sequence AL023853.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          THROPRANT: This sequence is NOT necessarily the entire insert of the specified clone. It may be shorter because we only sequence overlapping sections once, or longer because we arrange for a small overlap between neighbouring submissions.

Location/Qualifiers
                                                     ö
                                                                                                                                                                                                                                                                                         INV 24-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Submitted (06-NOV-1996) Nematode Sequencing Project, Sanger
Institute, Hinxton, Cambridge CB10 1SA, England and Department of
Genetics, Washington University, St. Louis, NO 63110, USA. E-mail:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    For a graphical representation of this sequence and its analysis see:- http://wormbase.sanger.ac.uk/perl/ace/elegans/seq/sequence?
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        jes@sanger.ac.uk or rw@nematode.wustl.edu
On Jun 13, 1998 this sequence version replaced gi:1666043.
Coding sequences below are predicted from computer analysis, usi
predictions from Genefinder (P. Green, U. Washington), and other
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         similar to Leucine Rich Repeat (2 copies) (2 domains) cDNA EST EMBL:M75821 comes from this gene cDNA EST yk98f3.3 comes from this gene cDNA EST yk98f3.5 comes from this gene cDNA EST yk9473.7.3 comes from this gene cDNA EST yk47a7.3 comes from this gene
                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Genome sequence of the nematode C. elegans: a platform for investigating biology. The C. elegans Sequencing Consortium Science 282 (5396), 2012-2018 (1998)
                                                     ö
                                                                                                                                                                                                                                                                      сEZC334 35836 bp DNA linear INV
Caenorhabditis elegans cosmid ZC334, complete sequence.
Z82082
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida;
Rhabditoidea; Rhabditidae; Peloderinae; Caenorhabditis
Length 318221;
                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      join(73. 105,150. 415,478. 635,810.
2392. 2767,4288. 4361,4948. 5183,524
/gene="ZC334.5"

    35836
    /organism="Caenorhabditis elegans"
/db_xref="taxon:6239"

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /note="predicted using Genefinder
1.0%; Score 32; DB 2; Le
100.0%; Pred. No. 0.00016;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   join(73. .105,150. .415,478. .
2392. .2767,4238. .4361,4948.
/gene="ZC334.5"
                                                                                                                             The C.elegans Sequencing Consortium. 2 (bases 1 to 35836)
                                                                                                     193 aaaaaaattttttttttttttttttttttgtt 224
                                                                                                                                                                                                                                                                                                                                                                                                              Caenorhabditis elegans.
Caenorhabditis elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /clone="ZC334"
                                                                                                                                                                                                                                                                                                                                                              Z82082.1 GI:3218092
                                                     32; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Submission
                          Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          name=2C334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 (sites)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          McLay, K
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Direct
     Query Match
                                                                                                                                                                                                                                                                                                         DEFINITION
ACCESSION
                                                                                                                                                                                                                                   RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                      KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REMARK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                           CEZC334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
```

COMMENT

```
2: gap of
3237: ~
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  16714: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    7536: gap of
8247: co
                                                                                                                                                                                                                                                                                                                                           gap of
                                                                                                                                                                                                                                                                                                                                                                    gap of
                                                                                                                                                                                                                                                                832: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                       7436:
                                                                                                                                                                                                                                                                                                                                                       4086:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9940:
                                                                                                                                                                                                                                                                                                                                                                                4930:
                                                                                                                                                                                                                                                                                                        2402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10040:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               11580 11679:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19178:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10864:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13254 13353:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                14951 15050:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      12420 12519:
                                                                                                                                                                                                                                                                                                                                                                                          5030:
                                                                                                                                                                                                                                                                                         1566 1665:
                                                                                                                                                                                                                                                                                                                  2502:
                                                                                                                                                                                                                                                                                                                                           3337:
                                                                                                                                                                                                                                                                                                                                                                   4186:
                                                                                                                                                                                                                                                                                                                                                                                                                   5858:
                                                                                                                                                                                                                                                                                                                                                                                                                                            :9699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8347:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9193:
                                                                                                                                                                                                                                           be preserved
                                                                                                                                                                                                                                                                                                                                           3238
3338
4087
                                                                                                                                                                                                                                                                                                                                                                               4187
4931
5031
5759
5859
6597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17414
                                                                                                                                                                                                                                                                                                                  2403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7537
8248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8348
9094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4098
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10765
                                                                                                                                                                                                                                                                                                        1666
                                                                                                                                                                                                                                                                                                                                                                                                                                                          6697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /protein_id="CAB04962.1"
/db_xref="GI:3881430"
/db_xref="SPTREMEL." RAINAMALDELEMOKEVOEFHHWIGMLOEFMINK
/Lranslation="MRALVAILCLMALCHAAMLDELEMOKEVOEFHHWIGMLOEFMINK
GLIGNHHHGTKAGLTCGMNIIERVDKLCNGQCTRNYDALVIKSCHRGVSDMEFMVACC
                                                                                                                                                                                                                                                                                                                                                                 ACU2/803 140798 bp DNA linear HTG 27-JUN-2000 SEQUENCE SAMPLING.
                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Submitted (01-APR-2000) Whitehead Institute/MIT Center for Genome Research, 320 Charles Street, Cambridge, MA 02141, USA On Jun 27, 2000 Lis sequence version replaced gi:7382645. All repeats were identified using RepeatMasker: Smit, A.F.A. & Green, P. (1996-1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                 ö
complement(join(31630. .31718,31887. .32130))
/gene="2C334.1"
                         complement(join(31630. .31718,31887. .32130))
/gene="2C334.1"
                                                                                                                                                                                                                                      0.9%; Score 31; DB 3; Length 35836;
100.0%; Pred. No. 0.00064;
Live 0; Mismatches 0; Indels
                                                                                        gene"
                                                                             gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Birren, B., Linton, L., Nusbaum, C. and Lander, E. Homo sapiens chromosome 17, clone RP11-323K14
                                                  /note="predicted using Genefinder CDNA BST yk149h6.5 comes from this cDNA BST yk222h5.3 comes from this cDNA BST yk222h5.5 comes from this
                                                                                                                                                                                         6543 g 11576 t
                                                                                                                                                                                                                                                                                                      192 gaaaaaatttttttttttttttttttg 222
                                                                                                      /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                  AC027803
AC027803.2 GI:8746876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (bases 1 to 140798)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (bases 1 to 140798)
                                                                                                                                                                                        6406 c
                                                                                                                                                                                                                                                               31; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                            HTG; HTGS_PHASEO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                  Best Local Similarity
Matches 31; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unpublished
                                                                                                                                                                                         11311
                                                                                                                                                                                                                                                                                                                                                                                                                                                          human .
                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                    RESULT 16
AC027803/c
LOCUS
                                                                                                                                                                                      BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                         DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
REFERENCE
AUTHORS
   gene
                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                               VERSION
KEYWORDS
SOURCE
                           CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMMENT
```

ò

```
NOTE: This record contains 164 individual sequencing reads that have not been assembled into contigs. Runs of N are used to separate the reads and the order in which they appear is completely arbitrary. Low pass sequence sampling is useful for identifying clones that may be gene-rich and allow overlap relationships among clones to be deduced. However, it should not be assumed that this clone will be sequenced to completion. In the event that the record is updated, the accession number will
                                                              Center code: WIBR
Web site: http://www.seq.wi.mit.edu
Contact: sequence_submissions@genome.wi.mit.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20 12519: gap of 100 bp 13253: contig of 734 bp in length 1354 13353: gap of 100 bp 100 bp 14097: gap of 100 bp 14097: gap of 100 bp 151 15050: gap of 100 bp 151 15050: gap of 100 bp 151 15791: contig of 753 bp in length 15791: contig of 741 bp in length 15791: contig of 741 bp in length 15791: contig of 733 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gap of 100 bp in length 1565: contig of 733 bp in length 13 gap of 100 hr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                00 bp
744 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     596: contig of 738 bp in length gap of 100 hr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100 bp
f 740 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 64: gap of 100 bp 11579: contig of 715 bp in length 79: gap of 100 bp in length 12419: contig of 740 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17513: gap of 100 bp
18224: contig of 711 bp in length
18324: gáp of 100 bp
19078: contig of 754 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19886 19985: gap of 100 bp 19986 20713: contig of 728 bp in length 20714 20813: gap of 100 bp 100 bp 21548: contig of 735 bp in length 21549 21648: gap of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            p of 100 bp contig of 737 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100 bp
f 749 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              00 bp
728 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100 bp
f 746 bp in length
100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     contig of 747 bp in length p of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10764: contig of 724 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                732: contig of 732 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  contig of 711 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100 bp
699 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of 100 bp
contig of 735 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               19885: contig of 707 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10
10
10: contig of 7
13: gap of
6596: contig of 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8247: contig of 7
7: gap of 100
9093: contig of 7
3: gap of 100
                                                                                                                                                      Center project name: L9072
Center clone name: 323_K_14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              17413: contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       contig of
```

```
27 39126: gap of 100 bp 11 length 100 bp 13871: contig of 745 bp in length 100 bp 100 
                                                                                                                                                                                                                                                                                                                                                                                                                                              2365: Gap of 100 bp 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     38282: gap of 100 bp 39026: contig of 744 bp in length
                                                                              in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  contig of 757 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 in length
                                                                                                                                                                                                                                                                                                            contig of 740 bp in length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100 bp
of 716 bp i
100 bp
                                                                       22: contig of 736 bp
gap of 100 bp
12: contig of 720 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                49927: contig of 736 bp
27: gap of 100 bp
50765: contig of 738 bp
65: gap of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  51599: contig of 734 bp
199: gap of 100 bp
52420: contig of 721 bp
                                                                                                                                                                                                                                                                                                                                           p of 100 bp
contig of 728 bp
22386: contig of 738 bp
                                                                                                                                                                                                                                     of 733 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         contig of 752 bp
                                                                                                                                                                                                                                                        100 bp
                                                                                                                                                                                         100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                          100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100 bp
                                                                                                                                                                                                         24975: contig o. 25715: contig o. 25715: contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               : contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Jul. gap of 49927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            006:. gap of
47382: con+
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cont : gap of 48239;
                                                                                                                                                                                         24142: gap of
24875: cont
                                                                                                                                                                                                                                                                                                                                                                                                                              gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gap of
                                                                                                                                                                                                                                                                                                                                                   gap of
                                           gap
                                                                                                                                                                                                                                                                                                                                                                               26543:
                                                                                                                                                          24042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             49091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 49191:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          51699:
                                                                                                                  23322:
                                                                                                                                                                                                                                                                                                                                                   25815:
                                                                                                                                                                                                                                                                                                                                                                                                                              26643:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  29988:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30821:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         34958:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           47482:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 27465:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       29144:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 31668:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  37433:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       33292:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          48339:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            28296:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          34107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                35766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       36607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        46666
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   50865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            50027
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            32491
                                                                                                                                                                                         24043
24143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9928
```

```
Tequescies: Controller equescies and the control of Nov 16, 2000 this sequence version replaced gi:11137660.

Ouring sequence assembly data is compared from overlapping clones. Where differences are found these are annotated as variations together with a note of the overlapping clone name. Note that the variation annotation may not be found in the sequence submission corresponding to the overlapping clone, as we submit sequences with only a small overlap as described above.

The following abbreviations are used to associate primary accession numbers given in the feature table with their source databasses:

Em., EMBL; Sw., SWISSPROT; Tr., TREMBL; Wp., WORMPEP; Information on the WORMPEP database can be found at http://www.sanger.ac.uk/Projects/C_elegans/wormpep This sequence was generated from part of bacterial clone contigs of human chromosome 13, constructed by the Sanger Centre Chromosome 13 Mapping Group. Further information can be found at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AL158193 172896 bp DNA linear PRI 25-MAY-2001 Human DNA sequence from clone RP11-400M12 on chromosome 13 Contains the end of the UBL3 (ubiquitin-like 3) gene, ESTs, STSs, GSSs and a CDG island, complete sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               http://www.sanger.ac.uk/HGP/Chr13
This sequence is the entire insert of clone RP11-400N12 The true
left end of clone RP11-174H18 is at 89870 in this sequence. This
sequence was finished as follows unless otherwise noted: all
regions were either double-stranded or sequenced with an alternate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             chemistry or covered by high quality data (i.e., phred quality >= 0.0); an attempt was made to resolve all sequencing problems, such as compressions and repeats; all regions were covered by at least one plasmid subclone or more than one M13 subclone; and the assembly was confirmed by restriction digest. RPI1-400N12 is from the library RPCI-11.2 constructed by the group of Pieter de Jong. Por further details see
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 172896)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Wall.M.
Direct Submission
Submitted (15-MAY-2001) Sanger Centre, Hinxton, Cambridgeshire, CBIO 15A, UK. E-mail enquiries: humquery@sanger.ac.uk Clone requests: clonerequest@sanger.ac.uk
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;
                                                                                                                                                                                                                                                                                                                                                                                       DB 2; Length 140798; 0.00054;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Indels
52520: gap of 100 bp
53232: contig of 712 bp in length
53332: gap of 100 bp
54054: contig of 722 bp in length
                                                                                                                    54055 54154: gap of 100 bp 54155 54870: contig of 716 bp in length 54871 55699: contig of 729 bp in length 55700 55799: gap of 100 bp 55800 55546: contig of 747 bp in length 55647 56646: gap of 100 bp
                                                                                                                                                                                                                                                                                                 56646: gap of 100 bp
57400: contig of 754 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        http://www.chori.org/bacpac/home.htm
VECTOR: pBACe3.6.
                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Pred. ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AL158193.13 GI:11182169
HTG; CpG island; ubiquitin; UBL3.
                                                                                                                                                                                                                                                                                                                                                                                             Score 31;
                                                                                                                                                                                                                                                                                                                                                                                                0.98;
                                                                                                                                                                                                                                                                                                                                                                                          Query Match 0.9
Best Local Similarity 100.
Matches 31; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
                                                                53233
53333
54055
54155
54871
                                                                                                                                                                                                                                                                                                 56547
         52421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AL158193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 17
AL158193/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMMENT
```

/organism="Homo sapiens"

Location/Qualifiers

.172896

source

FEATURES

```
misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9776. .12321
/note="LIPA7 repeat: matches 3601. .6141 of consensus"
12645. .1657
/note="LIPA7 repeat: matches 18. .3601 of consensus"
16538. .17237
/note="LIPA10 repeat: matches 5445. .6164 of consensus"
17259. .17390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             consensus
                                                                                                                                                                                                                                                                                                                                                                                           // note="Living repeat: matches 1897. .2021 of consensus" 17394 ...17425 // note="16 copies 2 mer aa 84% conserved" complement(19478. .20162) // note="match: GSS: Em:AQ350792" // note="match: GSS: Em:AQ806482" // note="match: GSS: Em:AQ806482" // note="match: GSS: Em:AQ806482" // note="match: GSS: Em:AQ806482" // note="TRR29 repeat: matches 23. .149 of consensus" 20236 ...20512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          //note="I/R29 repeat: matches 370. .619 of consensus" 21147. .26393 //note="ILHS repeat: matches 900. .6146 of consensus" 26389. .27137 //note="ILHS repeat: matches 32. .776 of consensus"
                                                                                          /note="MER7C repeat: matches 173. .602 of consensus"
1420. .1559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note="67 copies 2 mer aa 60% conserved"
39632. .4022
7.0te="LTHIOC repeat: matches 1. .586 of consensus"
41331. .41623
/note="MER82 repeat: matches 7. .30% of consensus"
conptement(41701. .42375)
41906. .42375
                                                                                                              1420. 1559
/note="MER7C repeat: matches 2. .173 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .6165 of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /evidence-not_experimental
29280. .29387
/note-"54 copies 2 mer ta 60% conserved"
29459. .29573
/note-"23 copies 5 mer tatat 61% conserved"
29493. .29590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="49 copies 2 mer ta 61% conserved"
29595. .30568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   37666, .38302
/note="LipAl0 repeat: matches 5526.
                                                                                                                                                                                  complement(3569, .4072)
/note="match: GSS: Em:AQ754516"
complement(3632, .4071)
/note="match: GSS: Em:AQ703632"
                                                                                                                                                1743. 2156
/note="match: GSS: Em:AQ151959"
complement(3569. 4072)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="match: GSS: Em:AQ319140"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          complement(41924. .42375)
//note="match: 6SS: Em: A2254542"
complement(41956 .43375)
/note="match: GSS: Em: AQ489422"
                                                /clone_lib-"RPCI-11.2"
690. .1132
/db_xref="taxon:9606"
                                  /clone="RP11-400N12"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26723. .27139 /
/note="CpG island"
                                                                          repeat_region
                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                                                                                                                                                                                                 repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                              repeat_region
                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                  misc_feature
                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  misc_feature
```

```
/note="match: GSS: Em:AQ713295"
86358. .86957
/note="match: GSS: Em:AQ426776"
8689. .86925
/note="single clone region. Sequence from clone PCR only."
88375. .88444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .5821 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .6155 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat: matches 4480. .6138 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .155 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .519 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     repeat: matches 327. .652 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .6144 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .396 of consensus"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Complement(61809. .6225)
6.7001e="match: GSS: Em:A0429742"
6.7137. .67325
6.7137. .67325
6.7137. .67325
6.7137. .67325
6.7137. .67325
6.7137. .71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6.71219
6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="35 copies 2 mer tt 67% conserved"
                                                                                                                                                                                                                                                                                                                                                complement(4221. 4237)

Complement(4221. 42374)

Conte="match: GSS: Em: A061736"

Conte="match: GSS: Em: B69794"

Conte="match: GSS: Em: A0021494"

Complement(42234. 4237)

Conte="match: GSS: Em: A0037473"

Complement(42236. 42374)

Conte="match: GSS: Em: A0037473"

A2391. 42718

A0392. repeat: matches 327. 471. 51188

Conte="LiPA2 repeat: matches 8. 615186. 52830

Conte="LiPA7 repeat: matches 4480. 53104. 53442

Complement(56787. 5721)

Complement(56787. 5721)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="match: GSS: Em:AQ126222"
61609. .62001
/note="MERG1B repeat: matches 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           complement(89320. .89853)
/note="march: GSS: Em:AA0763680"
complement(89397. .89870)
/note="march: GSS: Em:AA202624
match: STS: Em:G61256"
                                                           Em: AZ517696"
                                                                                           .42375)
Em:AQ817421"
Em: AQ808740"
42374)
                                                                                                                                                                                                                                           Em:AQ627818".42374)
                                                                                                                                                                                                                                                                                                    Em: AQ815465"
                                                                                                                                                                               Em: B94003"
                                                                                                                                                                            /note="match: GSS: El
42147. .42408
/note="match: GSS: El
complement(42154. .4.
                                                                                                                          /note="match: GSS:
                                                                                                                                                                                                                                                                                                       /note="match: GSS:
complement(42177.
      /note="match: GS:
complement(42095
                                                                                           complement (42105
                                                                                                                                                   complement (42115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                  misc_feature
                                                                                           misc_feature
                                                                                                                                                      misc_feature
                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                       misc_feature
```

us-09-667-130-1.rge

ò

```
37883
42292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     22216
22316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              31403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  56604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             48985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          56504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                18603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     42392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    62002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        76956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Birren, B., Linton, L., Nusbaum, C., Lander, E., Allen, N., Anderson, M., Baldwin, J., Barna, N., Beckerly, R., Boguslavkiy, L., Boukhgalter, B., Brown, A., Castle, A., Collangelo, M., Collangelo, M., Collymore, A., Cooke, P., Castlano, K., Dewar, K., Domino, M., Donelan, L., Doyle, M., Ferreira, P., FitzHugh, M., Forrest, C., Funke, R., Gage, D., Galagan, J., Grant, G., Hagos, B., Heaford, A., Horton, L., Howland, J.C., Johnson, R., Jones, C., Kann, L., Karatas, A., Klein, J., McEwan, P., McGernan, K., McCaughlin, J., Marquis, N., McKernan, R., McLaughlin, J., Marquis, N., McKernan, R., McLaughlin, J., Marquis, N., Morrow, J., Naylor, J., Norman, C.H., O'Connor, T., O'Donnell, P., Peterson, K., Pollara, V., Riley, R., Roy, A., Santos, R., Severy, P., Stange-Thomann, N., Stojanovic, N., Subramanian, A., Talamas, J., Wyman, D., Ye, W.J., Zimmer, A. and Zody, M.
                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                     HTG 30-MAR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                AC012141 173817 bp DNA linear HTG 30-MAR-200 Homo sapiens clone RP11-10N7, WORKING DRAFT SEQUENCE, 25 unordered
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (20-0CT-1999) Whitehead Institute/MIT Center for Genome Research, 320 Charles Street, Cambridge, MA 02141, USA ON MAX 30, 2000 this sequence version replaced gi:6087937. All repeats were identified using RepeatMasker: Smit, A.F.A. & Green, P. (1996-1997) http://ftp.genome.washington.edu/RM/RepeatMasker.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ------ Genome Center
Center: Whitehead Institute/ MIT Center for Genome Research
                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                          .,
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sum-of-contigs
                                                                                                                                                      Length 172896;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequencing vector: M13; M77815; 100% of reads Chemistry: Dye-terminator Big Dye; 100% of reads Assembly program: Phrap; version 0.960731 Consensus quality: 159818 bases at least Q30 Consensus quality: 165585 bases at least Q30 Consensus quality: 168180 bases at least Q20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Web site: http://www-seq.wi.mit.edu
Contact: sequence_submissions@genome.wi.mit.edu
------ Project Information
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Insert size: 162000; agarose-fp
Insert size: 171417; sum-of-contigs
outsity coverage: 5.4 in 020 bases; agarose-fp
Quality coverage: 5.1 in 020 bases; sum-of-con
                                                                                                                                                                                                        0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Birren, B., Linton, L., Nusbaum, C. and Lander, E. Homo sapiens, clone RP11-10N7
Unpublished
                                                                                                                                                      0.9%; Score 31; DB 9; Lv
100.0%; Pred. No. 0.00053;
iive 0; Mismatches 0;
complement(89702. .90318)
/note="match: GSS: Em:AQ633671"
89872. .90324
/note="match: GSS: Em:AQ355254"
90278. .90481
                                                                                                                                                                                                                                                                                  D 156341 TGAAAAAATTTTTTTTTTTTTTTTTTTTTT 156311
                                                                                                                                                                                                                                                       191 tgaaaaaattttttttttttttttttt 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Center project name: L3122
Center clone name: 10_N_7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AC012141
AC012141.2 GI:7341875
HTG; HTGS_PHASE1; HTGS_DRAFT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mammalia; Eutheria; Pr. 1 (bases 1 to 173817)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (bases 1 to 173817)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Center code: WIBR
                                                                                                                                 Query Match
Best Local Similarity 100.C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          pieces
     misc_feature
                                                       misc_feature
                                                                                                      misc_feature
                                                                                                                                                                                                                                                                                                                                                                                   RESULT 18
AC012141/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
JOURNAL
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMMENT
```

```
consists of 25 contigs. The true order of the pieces is not known and their order in this sequence record is arbitrary. Gaps between the contigs are represented as runs of N, but the exact sizes of the gaps are unknown. This record will be updated with the finished sequence as soon as it is available and the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                              2463 2462: gap of 100 bp 2463 3691: contig of 1229 bp in length 3692 3791: gap of 100 bp 3692 3406: contig of 1229 bp in length 3692 3406: contig of 1615 bp in length 5407 5506: gap of 100 bp 100 bp 6706: contig of 1200 bp in length 6707 6606: contig of 2200 bp in length 6807 9793 9892: gap of 100 bp 100 bp 12320 12419: gap of 100 bp 12220 12419: gap of 12224 bp in length 12220 12420 12520 bp 12224 bp in length 12220 12420 12520 12520 bp 12220 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 109450 109549: gap of 100 bp
109550 125405: contig of 15856 bp in length
125406 125505: gap of 100 bp
125506 148312: contig of 22807 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          125506 148312; contig of 22807 bp in length
148313 148412; gap of 100 bp
148413 173817; contig of 25405 bp in length.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  p of 100 bp contig of 11498 bp in length p of 100 bp contig of 12930 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      55: gap of 100 bp 84821: contig of 7866 bp in length
                                                                                                                                                                                                                                                                                                                     100 bp
f 1239 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      p of 100 bp
contig of 6593 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  o of 100 bp
contig of 7419 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    03: gap of 100 bp 61901: contig of 5298 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       o of 100 bp
contig of 6690 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   p of 100 bp contig of 8064 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           14644 14743: gap of 100 bp 14744 18502: contig of 3759 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     o of 100 bp contig of 4151 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 o of 100 bp contig of 4736 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   oof 100 bp
contig of 6380 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               37882: gap of 100 bp
42291: contig of 4409 bp in length
                                                                                                                                                                                                                                                                                         1023: contig of 1023 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  p of 100 bp
contig of 3613 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /clone_lib="RPCI-11 Human Male BAC"
1. 1023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1124. .2362
/note="assembly_fragment"
2463. .3691
/note="assembly_fragment"
3792. .5406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3/92. .5406
/note="assembly_fragment"
5507. .6706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5507. .6706
/note="assembly_fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Homo sapiens'
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                     contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /clone="RP11-10N7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            con.
109449: 754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          con.
48984:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              U84: gap of
56503: con+
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              02: gap of 22215: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26467 26566: gap of 31302: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                31303 31402: gap of 31403 37782: con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     84822 84921: gap of
84922 96419: con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              22315: gap of
26466: con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            68692 68791: gap of
68792 76855: con
                                                                                                                                                                                                                                                                                                              1024 1123: gap of 1124 2362: co
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2 62001: gar
68691:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8503 18602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         84922 96
96420 96519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      42391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     49084
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      76856 76955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    56603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
```

```
Landerson, L., Nusbaum, C., Lander, E., Abraham, H., Allen, N., Anderson, S., Baldwin, J., Barna, N., Beda, F., Boguslavkiy, L., Anderson, S., Baldwin, J., Barna, N., Beda, F., Boguslavkiy, L., Anderson, S., Baldwin, J., Barna, N., Beda, F., Boguslavkiy, L., Colangelo, M., Collins, S., Collymore, A., Cooke, P., Copeel, Y., Colangelo, M., Collins, S., Collymore, A., Cooke, P., Dearellano, K., Dewar, K., Dodge, S., Domino, M., Doyle, M., Forrestro, J., Ferreira, P., Fitzhugh, W., Forrestro, C., Galagan, J., Gardyna, S., Ginde, S., Goyette, M., Grahm, L., Grand-Pierre, N., Grant, G., Hagos, B., Heaford, A., Horton, L., Karatas, A., Howland, J.C., Lilev, T., Johnson, R., Johnson, R., Johnson, R., Johnson, R., McCarthy, M., McEwan, P., McGurk, A., McKernan, K., Mecheeters, R., Meldrim, J., Menders, T., Margocque, K., Menday, V., Morrow, J., Naylor, J. Norman, C., Mihova, T., Miranda, C., Menga, V., Morrow, J., Naylor, J. Norman, C., Pierreson, K., Pierre, M., Pisani, C., Polnaell, P., O'Neil, D., Olivar, T.M., Sencer, B., Stange-Thomann, N., Stojanovic, N., Subramanian, A., Talamas, J., Tesfaye, S., Theodore, J., Tirrell, A., Travers, M., Tigillo, J., Young, G., Zalnoun, J., Zimmer, A. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Direct Submission
Submitted (11-FEB-2000) Whitehead Institute/MIT Center for Genome Submitted (11-FEB-2000) Whitehead Institute/MIT Center for Genome Research, 320 Charles Street, Cambridge, MA 02141, USA On Feb 25, 2001 this sequence version replaced gi:7139742.

All repeats were identified using RepeatMasker:
Smit, A.F.A. & Green, P. (1996-1997)
http://ftp.genome.washington.edu/RM/RepeatMasker.html
Center: Whitehead Institute/ MIT Center for Genome Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30764 30863: gap of 100 bp
30864 50814: contig of 19951 bp in length
50815 50914: gap of 100 bp
73714: contig of 22800 bp in length
73715 73814: gap of 100 bp
73815 117169: contig of 43355 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   117170 117269: gap of 100 bp
117270 198820: contig of 81551 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5937 6036: gap of 100 bp 6037 17238: contig of 11202 bp in length 17239 17338: gap of 100 bp 17339 30763: contig of 13425 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5936: contig of 5936 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
1. .198820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      source
                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
JOURNAL
REFERENCE
                     AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACO23315 198820 bp DNA linear HTG 25-JUN-2001
Homo sapiens clone RP11-333J10, WORKING DRAFT SEQUENCE, 7 unordered
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 198820)
Birren,B., Linton,L., Nusbaum,C. and Lander,E.
Homo sapiens, clone RP11-333/10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0.9%; Score 31; DB 2; Length 173817;
100.0%; Pred. No. 0.00053;
Live 0; Mismatches 0; Indels .0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2412 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AC023315
AC023315.3 GI:13123390
HTG; HTGS_PHASE1; HTGS_DRAFT; HTGS_FULLTOP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note="assembly_fragment"
12556. .148312.
/note="assembly_fragment"
148413. .173817.
/note="assembly_fragment"
a 37611 c 37301 g 46828 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Db 166689 AAAAAATTTTTTTTTTTTTTTTTTTTTTT 166559
                                                                                                                                                                                                                                                                                                                                            /note-"assembly_fragment"
37883. 42291
/note-"assembly_fragment"
42392. 48984
/note-"assembly_fragment"
49085. 556503
/note-"assembly_fragment"
56604. 61901
                                                                             9893. 12319
/note="assembly_fragment"
12420. 14643
/note="assembly_fragment"
1474. 18502
/note="assembly_fragment"
18603. 22215
                                                                                                                                                                                                    76956. 84821

/note-"assembly_fragment"

84922. 96419

/note-"assembly_fragment"

9520. 109449

/note-"assembly_fragment"

109550. 125405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="assembly_fragment"
68792. 76855
/note="assembly_fragment"
                                      /note="assembly_fragment"
9893, .12310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  'note="assembly_fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 193 aaaaaaattttttttttttttttttttgt 223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         vector_side:right"
62002. .68691
                                                                                                                                                                                                                                                                                                                                 31403. .37782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              clone_end:SP6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          31; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    49665
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             pieces
                                        misc_feature
                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             misc_feature
                                                                             misc_feature
                                                                                                                    misc_feature
                                                                                                                                                             misc_feature
                                                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                               misc_feature
                                                                                                                                                                                                                                                                                        misc_feature
                                                                                                                                                                                                                                                                                                                                                                      misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                 misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                          misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 19
AC023315/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                rocns
```

õ

```
house mouse.
Mus musculus
                                                                                                                                                                                                                                                                                                                                                                          66075 a
                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                  misc_feature
                                                                                                                                                                                                                                                                                    misc_feature
                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                          BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AC079869/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AL671090 198932 bp DNA linear HTG 08-FEB-2002 Mus musculus chromosome 4 clone RP23-154A10, *** SEQUENCING IN PROGRESS ***, in unordered pieces.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Submitted (07-FEB-2002) Wellcome Trust Sanger Institute, Hinxton, Cambridgeshire, CB10 15A, UK. E-mail enquiries: humquery@Sanger.ac.uk Clone requests: clonerequest@sanger.ac.uk on Feb 10, 2002 this sequence version replaced gi:18491462.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Assembly program: XGAP4; version 4.5
Sequencing vector: plasmid, 108752; 100% of reads
Chemistry: Dye-terminator Big Dye; 95% of reads
Chemistry: Dye-terminator; 4% of reads
Consensus quality: 197921 bases at least Q40
Consensus quality: 198121 bases at least Q40
Consensus quality: 198350 bases at least Q30
Consensus quality: 198350 bases at least Q30
Insert size: 198732; sum-of-contigs
Insert size: 198732; sum-of-contigs
Consensus quality coverage: 10.38x in Q20 bases; sum-of-contigs Quality
Coverage: 10.51x in Q20 bases; agarose-fp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                           0.9%; Score 31; DB 2; Length 198820;
100.0%; Pred. No. 0.00052;
tive 0; Mismatches 0; Indels 0
                                                                                                                                                                                                                                                                                                                                                                          600 others
             /clone="RPI1-333J10"
/clone_lib="RPCI-11 Human Male BAC"
1. .5936
                                                                                                                                                                                                                                                                                                                                                       vector_side:right"
54514 a 44459 c 43520 g 55727 t
                                                                                  30864. 50814
/note="assembly_fragment"
50915. 73714
/note="assembly_fragment"
73815. .117169
/note="assembly_fragment"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Web site: http://www.sanger.ac.uk
Contact: humquery@sanger.ac.uk
                                                                                                                                                                                                                                                                                                   117270. .198820
/note="assembly_fragment
                                                                   /note="assembly_fragment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  193 aaaaaaatttttttttttttttttttttgt 223
'db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Center project name: bM154A10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AL671090.4 GI:18643845
HTG; HTGS_PHASE1.
                                                                                                                                                                                                                                                                                                                                          clone_end:T7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               31; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Center code: SC
                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 31; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      house mouse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (sites)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Plumb, B.
                                                  misc_feature
                                                                                                                       misc_feature
                                                                                                                                                           misc_feature
                                                                                                                                                                                              misc_feature
                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                misc_feature
                                                                                                                                                                                                                                                                                                       misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 20
AL671090/c
LOCUS
                                                                                                                                                                                                                                                                                                                                                                        BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMMENT
```

```
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

1. (Dasas 1 to 243675)

Metzker, M.L., Lewis, L.R., Hume, J., Edwards, C., Harris, C.,
Dederich, D., Thomas, S., Okwuonu, G., Carlock, C., Garner, T.,
Addison, S., Pace, A., Williams, G., Bonnin, D., Brooks, A., Brown, J.;
Buhay, C., Burac, C., Burkett, C., Chacko, J., Chen, Z.,
Cox, C., Davis, C., Delgado, D., Forcum-Tansey, J., Glll, R.,
Gorrell, J. H., Gunaratne, P., Haller, G., Hernandez, J., Hogues, M.,
Hosak, H., Hou, X., Huber, J., Jackson, L., Jia, Y., Kelly, J., Kelly, S.,
Kovar, C., Liu, J., Liu, W., Loulseged, H., Lozado, R.J., Martin, R.,
Massey, E., McLeod, M.P., Met, G., Moore, S., Morgan, M., Morris, S.,
Neal, D., Reiter, D., Say, J., Shen, H., Vasquez, L., Watlington, S.,
Williamson, A., Wrensford, G., Zhou, X., Bouck, J., Hodgson, A.,
Mulliamson, A., Wres, M., Scherer, S., Sodergren, E., Weinstock, G.,
Direct Submission

L. Oppublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ROD 11-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (15-SEP-2000) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA (bases I to 243675) Worley, K.C. Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mus musculus 9 BAC RP23-49M18 (Roswell Park Cancer Institute Mouse ACO79869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
* NOTE: This is a 'working draft' sequence.

* This record will be updated with the finished sequence

* as soon as it is available and the accession number will

* be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0.9%; Score 31; DB 2; Length 198932; 00.0%; Pred. No. 0.00052;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               200 others
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                 1. .198932
/organism="Mus musculus"
/db_xref="taxon:10090"
/chromosome="4"
/clone="RP23-154A10"
/clone_lb="RPC1-23"
1. .65901
/note="assembly_fragment:00047"
/66022. .192023
/fragment.chain:1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note="assembly_fragment:01866
fragment_chain:1
clone_end:T7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   vector_side:right"
| 35350 c 35808 g 61499 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; Pred. ....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Db 24229 GAGAAGGAGAAGGGAAGGAAAGGAGAAAGG 24199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1519 gagaaggagaaggggaaggagaagg 1549
                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AC079869.22 GI:14670076
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2 (bases 1 to 243675)
Worley, K.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 0.9%
Best Local Similarity 100.(
Matches 31; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Direct Submission
```

<u>;</u>

```
/rpt_family="Tigger4(Zombi)"
complement(25171. .25477)
/rpt_family="MTC"
25484. .25570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /rpt_family="Tigger4(Zombi)"
complement(25975. .26126)
/rpt_family="B1_MM"
26504. .26584
                                                                                                                                                                                                                                                                                                /rpt_family="Lx6"
complement(17445. .17538)
/rpt_family="Lx6"
complement.".
                                                                                                                                                                                                                                                                                                                                                                                                                                                  17887. .18105
/rpt_family="URRIA"
18984. .19004
/rpt_family="AT_rich"
complement(19009. .19124)
/rpt_family="B1-F"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /rpt_family="(TATG)n"
complement(28662. 28786)
/rpt_family="RSINE1"
28787. .28989
/rpt_family="B2"
complement(29170. .29378)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /rpt_family="(GA)n"
complement(19404. .19499)
/rpt_family="B2"
20429. .20470
/rpt_family="(TTGG)n"
complement(20471. .20604)
/rpt_family=""B1_MM"
                                                                                                                                                                                                                                /rpt_family="L1MB8"
6059. .16110
                                                                                                                                                                                                                                                                                                                                                          complement(17474. .17573)
/rpt_family="Li"
17660. .17770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  complement(24422. .24532)
/rpt_family="Bl_MM"
24959. .25083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /rpt_family="RSINE1"
23898. .24032
/rpt_family="Bl_MM"
24353. .24403
/rpt_family="(TTTA)n"
                                                                                                      /rpt_family="(CAAAA)n"
14260. .14354
                                                                                                                                                                                                                                                                                      /rpt_family="AT_rich"
complement(17083. .17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /rpt_family="(GAAA)n"
18553. .28622
                                                                                                                                                                                                                                                                                                                                                                                                                   rpt_family="PB1D9"
7774. .17797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rpt_family="(CA)n"
8100. .28264
                                                                               'rpt_family="B1_MM" 3619. .13644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      rpt_family="(CA)n"
7439. .27493
                                                                                                                                                                                                                      /rpt_family="B1-F"
complement(15444.
                                                                                                                                                      rpt_family="Lx2"
4371. .14550
                                            /rpt_family="B2"
3490. .13618
                                                                                                                                                                                  rpt_family="B2"
5288. .15436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    'rpt_family="B3"
22296. .22441
                   'rpt_family="L1"
2249. .12418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
        repeat_region
                                                                                                       repeat_region
                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                       repeat_region
                                                                        repeat_region
                                                                                                                                        repeat_region
                                                                                                                                                                       repeat_region
                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
Submitted (11-JUL-2001) Human Genome Sequencing Center, Department of Molecular and Human Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, TX 77030, USA on Jul 11, 2001 this sequence version replaced g1:13899377. Sequencing is completed to a minimum standard of double strand coverage with a minimum of 2 clones and 2 reads with no ambiguities or 2 chemistries with a minimum of 2 clones and 3 reads with no ambiguities. If the sequence quality does not meet this standard, it will be indicated in the annotation.
                                                                                                                                                                                                                                                                   Exon/Intron boundaries of identified genes were chosen if there were canonical splice junctions that maintained sequence continuity across the splice junctions.

1. .243675
                                                                                                                                                                                                                   Sequence similarities were identified using Powerblast by Jinghui
                                                                                                                                                                    The repeat regions shown were identified using RepeatMasker by Adrian Smit.
                                                                                                                                                                                                                                                                                                                                                    /organism="Mus musculus"
/db_xref="taxon:10090"
/chromosome="9"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /rpt_family="B2"
complement(4497, .470)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /rpt_family="B3" .4702)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /rpt_family="MTA"
complement(6394. .6573)
/rpt_family="B2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     complement (4954. .5065)
/rpt_family="PB1D10"
complement (5167. .5346)
                                                                                                                                                                                                                                                                                                                                                                                                                      20. 105
/rpt_family="CT-rich"
complement(575. .721)
/rpt_family="Bl_MM"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /rpt_family="Bl-F"
3928 .4076
/rpt_family="Bl_MM"
/rpt_family="R1_MM"
/rpt_family="RSINEl"
complement(4301, .4496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /rpt_family="AT_rich"
1591. .1735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /rpt_family="AT_rich"
3444. .3568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2407. .2578
/rpt_family="Bl_MM"
2708. .2732
                                                                                                                                                                                                                                                                                                                                                                                                     /clone="RP23-49M18"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /rpt_family="B1_MM" 2285. .2376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /rpt_family="B1_MM"
8160. .8329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2285. .2376
/rpt_family="L1MA7"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'rpt_family="B1-F" 1123. .2230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8160. .8329
/rpt_family="B2"
8385. .8476
/rpt_family="B2"
11055. .11342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /rpt_family="B4A"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /rpt_family="B2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          'rpt_family="B3"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1786. .1841
/rpt_family="B2"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .7615
                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            repeat_region
                                                                                                                                                                                                                                    Zhang.
     JOURNAL
                                                                                                                                                                                                                                                                                                                       FEATURES
                                                   COMMENT
```

.21587

```
Barton, P.J., Cullen, M.E., Townsend, P.J., Brand, N.J., Mullen, A.J., Norman, D.A., Bhavsar, P.K. and Yacoub, M.H.
Close physical linkage of human troponin genes: organization, sequence, and expression of the locus encoding cardiac troponin I and slow skeletal troponin T genomics 57 (1), 102-109 (1999)
99208666
2 (bases 1 to 16689)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 16689)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location: 1. 8801

7. organism="synthetic construct"

/db_xref="taxon:32630"

/note="chemically treated genomic DNA (Homo sapiens)"

366 c 2057 g 4034 t
                                                                                               /organism="synthetic construct"
/db_xref="taxon:32630"
/note="chemically treated genomic DNA (Homo sapiens)"
366 c 2057 g 4034 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        artificial sequence.

1 (sites)

Olek, A., Piepenbrock, C. and Berlin, K.

Diagnosis of diseases associated with the immune system Patent: WO 0200928-A 1714 03-JAN-2002;

Epigenomics AG (DE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens TNNT1 gene, exons 1-11 (and joined CDS). AJ011712 1 GI-4056561 slow skeletal; TNNT1 gene; troponin T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0.9%; Score 30; DB 6; Length 880
100.0%; Pred. No. 0.0023;
tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                                                                            DB 6; I
0.0023;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 1714 from Patent WO0200928. AX346643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DNA
Patent: WO 0192565-A 160 06-DEC-2001;
Epigenomics AG (DE)
Location/Qualifiers
                                                                                                                                                                                                                                                                         Query Match 0.9%; Score 30; DB Best Local Similarity 100.0%; Pred. No. 0.0 Matches 30; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 971 GAAAAAATTTTTTTTTTTTTTTTT 1000
                                                                                                                                                                                                                                                                                                                                                                           192 gaaaaaaatttttttttttttttttt 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16689 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AX346643.1 GI:18494529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            synthetic construct. synthetic construct
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity 100.
Matches 30; Conservative
                                                                             1. 8801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                               2344 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2344 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HSA011712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HSA011712/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                          BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BASE COUNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE
REFERENCE
  JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AX346643
                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT
                                                                                                                                                                                                      ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LOCUS
                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PAT 01-NOV-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PAT 07-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     // ... 8801
/organism="synthetic construct"
/db_xref="taxon:32630"
/note="chemically treated genomic DNA (Homo sapiens)"
a 366 c 2057 g 4034 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            synthetic construct
artificial sequence.
1 (sites)
Olek,A., Plepenbrock,C. and Berlin,K.
Diagnosis of diseases associated with dna transcription
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 243675;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 (sites)
Olek, A., Piepenbrock, C. and Berlin, K.
Diagnosis of diseases associated with gene regulation
Patent: WO 0177375-A 144 18-OCT-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 8801;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0.9%; Score 30; DB 6; Le
100.0%; Pred. No. 0.0023;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 0.9%; Score 31; DB 10;
100.0%; Pred. No. 0.00051;
Live 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Db 137978 TGAAAAAATTTTTTTTTTTTTTTTTTTTT 137948
                                                                                                                                                                                                                                                                       complement(31302. 31433)
/rpt_family"B1-F"
31444. 31503
/rpt_family"(TA)n"
complement(31553. 31665)
/rpt_family""RSINE1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AX277981 8801 bp 1
Sequence 144 from Patent WO0177375.
AX277981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AX323672 8801 bp I
Seguence 160 from Patent WO0192565.
AX323672
                                                                                                              /rpt_family="RSINE1"
30762. .3070
                  /rpt_family="B1-F"
complement for the complement fo
                                                                complement(3024, .30344)
/rpt_family="PB1"
complement(30594, .30753)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      191 tgaaaaaaattttttttttttttttttt 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   971 GAAAAAATTTTTTTTTTTTTTTTTTTTTTTTTTT 1000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           192 gaaaaaaatttttttttttttttttttt 221
                                                                                                                                                   ou/62. .30785
/rpt_family="AT_rich"
31123. .31147
                                                                                                                                                                                                                                                  /rpt_family="(TG)n"
complement(31302. ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
/rpt_family="B2"
complement(29457.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AX277981.1 GI:16605053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AX323672.1 GI:18094420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                synthetic construct artificial sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       synthetic construct.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          synthetic construct.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Epigenomics AG (DE)
                                                                                                                                                                                                                                                                                                                                                                                                                            Ouery Match
Best Local Similarity 100.0
These 31; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ouery Match 0.9%
Best Local Similarity 100.(
Matches 30, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2344
                       repeat_region
                                                                                                                                                                          repeat_region
                                                                                                                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                              repeat_region
                                                                          repeat_region
                                                                                                                           repeat_region
                                                                                                                                                                                                                                                                                                                               repeat_region
                                                                                                                                                                                                                                                                                                                                                                              repeat_region
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 23
AX323672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 2
AX277981
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VERSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
```

PRI 27-APR-1999

linear

Gaps

..

Length 8801;

PAT 01-FEB-2002

linear

ó

Gaps

0;

Length 8801;

```
PEGEBEKHYENPULDEPRI
PEGEBEKHYENPULDELOTLIDAHPEDRKEBEELVALKETIERRSERAEQ
ORFRITERERROAKLAEKMRKEEEBAKRRAEDDAKKKYLSOMGAHFGGYLVKAEOK
RGKROTGREKKYRILSERKKPLDIDYMGEEQLREKAQELSDWIHQLESEKFDLMAKLK
OGYYEINVLYRISHAOKFRKGAGKGRVGGRWK"
/gene="T\NT"
                                                                                                                                                                                                                                                    PVVPPLIPPRIPEGERVDFDDIHRRRREDLLELQTLIDVHFEQRKKEEEELVALKER
IERRRSERAEQQRFRTEKERERQAKLAEEKMRKEEEEAKKRAEDDAKKKVLSNMGAH
FGGYLVKAEQKRGKRQTGREMKVRILSERKKPLDIDYMGEEQLREKAQELSDWIHQLE
                                                                                                                                                               /product-"slow skeletal muscle troponin T"

protein_id-"CAN0973.1."

/db_xref-"di-"0555653"

/translation-"MSDTEEQEYEEEQPEEEAAREEEEEAPEEPPVAEPEEERPKPSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /product="slow skeletal muscle troponin T"
/db_xref="G1:4056562"
/translation="MSDTEEQEYEEEQPEEEAAEEEEEERPKPSRPVVPPLIPPKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                    SEKPDLMAKLKQQKYEINVLYNRISHAQKFRKGAGKGRVGGRWK"

join(4598. 4629,4734. 4747,5048. 5074,6189. 6210,

9829. 1982)10447. 10563,10789. 10866,13679. 13792,

14577. 14686,5J011713.1:519. 609,AJ011713.1:748. 788,

AJ011713.1:1715. 1760)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
  join(4598. .4629,4734. .4747,5048. .5074,5289. .5321,6189. .6210,9829. .9892,10447. .10563,10789. .10866,13679. .13792,14577. .14686,AJ011713.1:519. .609,AJ011713.1:748. .788,AJ011713.1:175. .1760)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 16689;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0.9%; Score 30; DB 9; Length 166
100.0%; Pred. No. 0.0021;
iive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note="approx. 200 bp gap with AJ011713"
                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note="alternatively spliced isoform" /codon_start=1
                                                                                                                      /note="alternatively spliced isoform"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              u
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /number=4
5289, .5321
/gene="TNNT1"
/note="alternative exon"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1526 agaaggggaaggaaggaaggaagg 1555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4743 g
                                                                                                                                         /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               14687. .>16689
/gene="TNNT1"
                                                                                                                                                                                                                                                                                                                                                                                                                                    /gene="TNNT1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10447. .10563
/gene="TNNT1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10789. .10866
/gene="TNNT1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               14577. 14686
/gene="TNNT1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5048. .5074
/gene="TNNT1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6189. .6210
/gene="TNNT1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13679. .13792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9829. 9892
/gene="TNNT1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /gene="TNNT1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'number=10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /number=5
6189. .621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /number=11
14687. .>1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'number=11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4422 C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            number=9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /number=3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    'number≖6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /number=7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /number=8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 0.9
Best Local Similarity 100.
Matches 30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      intron
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      exon
         CDS
                                                                                                                                                                                                                                                                                                                                                   CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PVVPPLIPPKIPEGERVDFDDIHRKRMEKDLLELQTLIDVHFEQRKKEEEELVALKER
TERRRSERAEQORFRTEKERRQAKLAMEEKMAKEREEBAKKKAEDDAKKKVLSNMGAH
FGGYLVAREORRGKROGTGEBMKVRTLSERKKPLDIDYMGEEGLRARGAMLPPSQPSCP
AREKAQELSDWIHQLESEKFDLMAKLKQQKYEINVLYNRISHAQKFRKGAGKGRVGGR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /translation="MSDTEEQEYEEEQPEEAAEEEEEAPEEPEPVAEPEEERPKPSR
Barton, P.J.R.
Direct Submission
Submitted (15-SEP-1998) Barton P.J.R., Cardiothoracic Surgery,
National Heart & Lung Institute, Dovehouse Street, London SW3 6JB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /product="troponin T, skeletal muscle"
191n(2581. 25654587. 14629.4734. 4747.5048. 5074,
191n(2581. 25264587. 14629.4734. 4747.5048. 5074,
10789. 10866,13679. 13792,14577. 14686,
AJOILTI3.1.519. 609,AJOII713.1.748. 788,
AGOILTI3.1.1715. 1846)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          join(4598. .4629,4734. .4747,5048. .5074,5289. .5321,6189. .6120,9829. .6210,9829. .10866, .10866, .13679. .13797. .14666,AJ011713.1.1471. .609, AJ011713.1.1748. .788,AJ011713.1.1715. .1760)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              join(2581, .2626,4587, .4629,4734, .4747,5048, .5074,6189, .6210,9829, .9892,10447, .10563,10789, .10866,13679, .13792,14577, .14686,AJ011713.1:519, .609,AJ011713.1:748, .788,AJ011713.1:175, .1846)
                                                                                          United Kingdom
Revised on 20-DEC-1998
Related sequences : X90780 (cardiac troponin I gene, directly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note="alternatively spliced mRNA"
/product="troponin T, skeletal and cardiac muscle"
join(2581. 2626,4587. 4597)
4587. 4629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /note="alternatively spliced mRNA"
/product="troponin" T, slow skeletal muscle"
/product="troponin" T, slow skeletal 1,474,5048 .50/
join (2581. .2626,4587 .4629,4734 .4747,5048 .50/
5289. .5321,6189. .6210,9829. .9892,10447. .10563,
10789. .10866,13679. .13792,14577. .14686,
AJ011713.1:471. .609,AJ011713.1:748. .788,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /produci-"slow skeletal muscle troponin T"
/protein_id="CAA09752.1"
/db_xref="GI:4056564"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /note="putative TATA box"
join(2581. .16689,AJ011713.1:1. .1846)
/gene="TNNT1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /note="alternatively spliced isoform"
                                                                                                                                                                                                                                                                                                                                                                                                          /gone="promoter region"
join(1. .16689,AJ011713.1:1. .1846)
/gene="TNNT1"
/gene="TNNT1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note-"alternatively spliced mRNA"
                                                                                                                                                                                                                                                                                                                      /map="q13.4"
/clone="DMPC-HFF#1-1495-E10"
                                                                                                                                                       AJ011713 (TNNT1 gene, exons 12-14).
Location/Qualifiers
1. 16689
                                                                                                                                                                                                                                                  /organism="Homo sapiens"
/db_xref="taxon:9606"
/chromosome="19"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /gene="TNNT1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2581. .2626
/gene="TNNT1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4587. .4629
/gene="TNNT1"
                                                                                                                                                                                                                                                                                                                                                                                         /gene="TNNT1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /gene="TNNT1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /gene="TNNT1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /number=1
                                                                                                                                                                                                                                                                                                                                                                    .2580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      prim_transcript
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TATA_signal
                                                                                                                                                                                                                                                                                                                                                                    promoter
                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S'UTR
                                                                                                                                                                                                                                                                                                                                                                                                                                        gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mRNA
  AUTHORS
                                               JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            exon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CDS
                                                                                                                 REMARK
                                                                                                                                                                                                            FEATURES
                                                                                                                                         COMMENT
```

Sequence Validation:

Overlapping Sequences:
5': RP11-702D16 (UWGC:djs709) AC083866, 46120-bp clone
overlap, of which only 4238 bp is included in this submission.
3': RP11-305M3 (UWGC:djs195) AC009244, 87331-bp clone overlap, of which only 1340 bp is included in this submission.

Sequence Quality Assessment:
This entry has been annotated with sequence quality
estimates computed by the Phrap assembly program.
All manually edited bases have been reduced to quality zero.
Quality levels above 40 are expected to have less than
1 error in 10,000 bp.
Base-by-base quality values are not generally visible from the
GenBank flat file format but are available as part
of this entry's ASN.1 file.

This sequence was finished as follows unless otherwise noted: all regions were either double-stranded or sequenced with an alternate chemistry or covered by high quality data (i.e., Phred quality -30); an attempt was made to resolve all sequencing problems, such as compressions and repeats; all regions were covered by at least one plasmid subclone or more than one M13 subclone; and the assembly was confirmed by restriction digest.

As sequence has been varianced by maintiple complies by bysical preparations. Comparison of the experimentally derived diagnents with sequence-predicted fragments is given below. The electronically-digested sequence consists of both insert ctor, in order to accurately represent the entire circular all fragments below a variable cutoff (approximately 400-9e not resolved in the fingerprint and hence do not appear the table. There are no significant remaining discrepancitives the experimental and predicted values. Uniquely order gaments are separated by dashed lines.  ECORI	SeqDerMap FngrPrnt SeqDerMap FngrPrnt	9086 9202 949 959	2035 2027 10444 10529 5756 5769	848 855 11998 11988	<800 875 874 5289	20457 282 <800 2029	5813 . 67	7709 7695 3805 3859 773 <800	4788 4722 612 <800 1174 1189	3787 3785 1094 1080 7149 7143	6289 6242 4364 4350	16931 16909 9 <800	9699 6899	3125 3073	3099 3073	. 2202 2220	647	3845 3886	2067 2044		/clone="RP11-382M23" /clone_lib="RPCI human BAC li 2995529967	14395 a 9205 c 10208 g 16008 t	ch 0.9%; Score 30; DB 9; Length 49816; 1 Similarity 100.0%; Pred. No. 0.0018; 30; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	
fings squenting fragments we tragments we sector. In Small fragments are not rest in the table between the fragments a fragments a fragments a fragments a fragments a	i	-			- 1	20482	6	7	- }	3787										FEATURES LOC Source 1. Vot Add Add Add Add Add Add Add Add Add Ad	/ci /cl misc_feature 299	מ	Ξ.	

ò

```
7985:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9670 9769:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               7096
7886
7986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8768
                                                                                                                                                                                                                                                             TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                  COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACO24343 64255 bp DNA linear HTG 28-FEB-2000 HOMO sapiens chromosome 8 clone RP11-380N6 map 8, LOW-FASS SEQUENCE SAMPLING.
                                                                                                                                                               AC015033 58569 bp DNA linear HTG 16-NOV-1999
Drosophila melanogaster, *** SEQUENCING IN PROGRESS ***, in ordered
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       University to 64255)

Birren,B., Linton,L., Nusbaum,C., Lander,E., Abraham,H., Allen,N., Anderson,S., Baldwin,J., Barna,N., Beda,F., Boquslavkiy,L., Boukhqaiter,B., Brown,A., Burkett,G., Campoplano,A., Castle,A., Choepel,Y., Colangelo,M., Collins,S., Collymore,A., Cooke,P., Fencelor,K., Diaz,J.S., Dodge,S., Domino,M., Doyle,M., Fencestor,J., Ferreira,P., FitzHugh,W., Forrest,C., Gage,D., Galagan,J., Gardyna,S., Ginde,S., Goyette,M., Graham,L., Howland,J.C., Iliev,L., Johnson,R., Jones,C., Kann,L., Karatas,A., Klein,J., Landers,T., Largocque,K., Lehoczky,J., Levine,R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Submitted (16-NOV-1999) Celera Genomics, 45 West Gude Drive, Rockville, MD, USA.
This sequence was identified as CDM:10213386 by the submitter.
For further information on this sequence e-mail to fly@celera.com.
* NOTE: This is a 'working draft' sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. 1 (bases 1 to 64255)
Birren, B., Linton, L., Nusbaum, C. and Lander, E. Homo. sapiens chromosome 8, clone RP11-380N6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                             Drosophila melanogaster
Eukaryota; metazoa; Arthropoda; Tracheata; Hexapoda; Insecta;
Pterygota; Neoptera; Endopterygota; Diptera; Brachycera;
Muscomorpha; Ephydroldea; Drosophilidae; Drosophila.
1 (bases I to 58569)
Adams, M. and Venter, J.C.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            * This sequence will be replaced
* by the finished sequence as soon as it is available and
* the accession number will be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 0.9%; Score 30; DB 2; Length 58569; Best Local Similarity 100.0%; Pred. No. 0.0018; Matches 30; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Drosophila melanogaster"
/db_xref="taxon:7227"
| 12617 c 12623 g 16944 t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Db 53307 AAAAATTTTTTTTTTTTTTTTTTTTTTTTTTTTTT 53278
                      Db 15493 AAAAAATTTTTTTTTTTTTTTTTTTTTTT 15464
193 aaaaaaatttttttttttttttttttg 222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            195 aaaaattttttttttttttttttttttgtt 224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
1. 58569
                                                                                                                                                                                                                                  AC015033
AC015033.1 GI:6436302
HTG; HTGS_PHASE2.
fruit fly.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AC024343
AC024343.1 GI:7108120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HTG; HTGS_PHASEO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16385 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BASE COUNT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                 RESULT 27
AC015033/c
                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEFINITION
                                                                                                                                                                                                                                                                                                                                  ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
REFERENCE
                                                                                                                                                                                                                                    ACCESSION
                                                                                                                                                                                                                                                           VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AC024343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LOCUS
```

ô

```
Lieu,C., Liu,G., Locke,K., Macdonald,P., Marquis,N., McCarthy,M., McBwan,P., McGurk,A., McKernan,K., McPheeters,R., Meldrim,J., Meneus,L., Mihova,T., Miranda,C., Mlenga,V., Morrow,J., Najlor,J., Norman,C.H., O'Connor,T., O'Donnell,P., O'Neil,D., Olivar,T.M., Peterson,K., Pierre,N., Pisani,C., Pollara,V., Raymond,C., Riley,R., Rogov,P., Rothman,D., Roy,A., Santos,R., Schauer,S., Severy,P., Spencer,B., Stange-Thomann,N., Stojanovic,N., Talamas,J., Tesfeye,S., Theodore,J., Tirrell,A., Travers,M., Trigillio,J., Vassillev,H., Viel,R., Vo,A., Wilson,B., Wu,X., Wyman,D., Ye,W.J., Young,G., Zainoun,J., Zimmer,A. and
                                                                                                                                                                                                                                                                 Direct Submission
Submitted (28-FEB-2000) Whitehead Institute/MIT Center for Genome Stabmitted (28-FEB-2000) Whitehead Institute/MIT Center for Genome Research, 320 Charles Street, Cambridge, MA 02141, USA All repeats were identified using RepeatMasker:
Smit, A.F.A. & Green, P. (1996-1997)
http://ftp.genome.washington.edu/RM/RepeatMasker.html
                                                                                                                                                                                                                                                                                                                                                                                                                       ...... Genome Center
Center: Whitehead Institute/ MIT Center for Genome Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         * NOTE: This record contains 72 individual

* sequencing reads that have not been assembled into
contigs. Runs of N are used to separate the reads
and the order in which they appear is completely
arbitrary. Low pass sequence sampling is useful for
* identifying clones that may be gene-rich and allows
overlap relationships among clones to be deduced.
* However, it should not be assumed that this clone
* Will be sequenced to completion. In the event that

the record is updated, the accession number will
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10579 10678: gap of 100 bp 11482: contig of 804 bp in length 11483 11582: gap of 100 bp 11582: gap of 100 bp 11583 12364: contig of 782 bp in length 12365 12464: gap of 100 bp 13257 13356: contig of 792 bp in length 13257 13356: contig of 782 bp in length 14139 14238 gap of 100 bp 14139 15045: contig of 807 bp in length 15142 15146 15564: contig of 819 bp in length 15046 15545: gap of 100 bp 15565 16064: gap of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  00 bp
784 bp in length
100 bp
f 790 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1682 1781: gap of 100 bp
1782 2592: contig of 811 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100 bp
of 760 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100 bp
f 784 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    00 bp
781 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100 bp
f 782 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100 bp
f 802 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 766 865: gap of 100 bp 866 1681: contig of 816 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          765: contig of 765 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Center code: WIBR
Web site: http://www-seq.wi.mit.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     00 bp
794 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    of 100 bp
contig of 809 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     00
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7: gap of 10
6111: contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       s: gap of 10
8767: contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   . gap of
11482:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2593 2692: gap of 2693 3452: cont 3453 3552: gap of 4336: cont 4337 4436: gap of 5218: cont 5218: cont 5318: cont 5318: cont 5318: cont 6695 7095: gap of 6512 6513: gap of 6512 6513: gap of 6695: cont 6996 7095: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5: gap of
7885: con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9: gap of
10578: con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8867: gap of 9669: col
```

```
28571: gap of 100 bp 72 29353: contig of 782 bp in length 154 29453: gap of 100 bp 154 29453: gap of 100 bp 155 30344: gap of 100 bp 137 31236: gap of 100 bp 137 31236: gap of 100 bp 137 31236: gap of 100 bp 137 31233: gap of 100 bp 100 bp 137 31233: gap of 100 bp 100 bp 137 31233: gap of 100 bp 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        34 32133; gap of 100 bp 129313; gap of 100 bp 129313; gap of 100 bp 13938; gap of 100 bp 100 bp 13953; contig of 815 bp in length 13953; contig of 779 bp in length 139532; contig of 789 bp in length 139532; gap of 100 bp 100 bp 139532; contig of 789 bp in length 139533; contig of 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            7504: gap of 100 bp 11 tength 8405: gap of 100 bp 100 bp 10197: gap of 100 bp 100 bp 10197: gap of 100 bp 100 bp 10197: gap of 100 bp 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1445: gap of 100 bp 12224: contig of 779 bp in length 2324: gap of 100 bp 23121: contig of 797 bp in length 3221: gap of 100 bp 100 bp 24006: contig of 785 bp in length 24866: contig of 760 bp in length 24866: contig of 760 bp in length
                                                             72: gap of 100 bp 1773: contig of 779 bp in length 51: gap of 100 bp 18656: contig of 805 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               contig of 803 bp in length ap of 100 bp contig of 786 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     24966: gap of 100 bp
25768: contig of 802 bp in length
25868: gap of 100 bp
26670: contig of 802 bp in length
26770: gap of 100 bp
27560: contig of 790 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60: gap of 100 bp 28471: contig of 811 bp in length 71: gap of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       48185: contig of 806 bp in length
48285: gap of 100 bp
49087: contig of 802 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100 bp
of 822 bp 1
100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                43778: gap of 100 bp
44575: contig of 797 bp 1
44675: gap of 100 bp
45470: contig of 795 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100 bp of 783 bp
                                                                                                                                                                                                                                                                                                                     8657 18756; gap of 100 bp
8757 19556; contig of 800 bp
9557 19656; gap of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        46386: contig of 816 bp
46486: gap of 100 bp
47279: contig of 793 bp
47379: gap of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  42856: gap of
43678: contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21: gap of
37404: contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          45570: gap of
46386: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 gap of
6065
16873 16972: gap
17751:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20459
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                37504:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 40185:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       41968:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    27660:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21445:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         22324:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       24106:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20559:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          38405:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    41063:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      39297
                                                                                                                                                                                                17851
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     36621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           23221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        45571
```

Dipublished

State (1 Dases 1 to 67462)

Birren, B., Linton, L., Nusbaum, C., Lander, E., Allen, N., Anderson, S., Barren, B., Linton, L., Noguslavin, T., Boukhalter, B., Encwin, A., Camarata, J., Campoplano, A., Chang, J., Choepel, Y., Colangelo, M., Collins, S., Collymore, A., Cooke, P., DeArellano, K., Dewar, K., Diaz, J.S., Dodges, S., Faro, S., Ferreira, P., Fitzhugh, W., Gage, D., Grand-Pierre, N., Hagos, B., Heaford, A., Horton, L., Hulme, M., Illev, I., Johnson, R., Jones, C., Karatas, A., LaRocque, K., Lamazares, R., Landers, T., Lehoczky, J., Levine, R., Liu, G., MacCanthy, M., MacChan, P., Macdonald, P., Marquis, N., Mathews, C., McCarthy, M., McDean, P., McKernan, K., McDheeters, R., Meldrim, J., Meneus, L., Mihova, T., Mlenga, V., Murphy, T., Naylor, J., Nguyen, C., Norbu, C., Norman, C.H., O'Connor, T., O'Donnell, P., O'Nell, D., Oliver, J., Retta, R., Ribeack, M., Santos, R., Schubback, R., Schubback, R., Schauer, S., Schubback, R., Seaman, S., Severy, P., Sougnez, C., Spencer, B., Stange-Thomann, N., ACUY1595 67462 bp DNA linear HTG 07-MAY-2001 Homo sapiens chromosome 17 clone RP11-960P18 map 17, LOW-PASS SEQUENCE SAMPLING. Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. Gaps .; 0 DB 2; Length 64255; 0.0018; 0; Indels 55443 56238: contig of 796 bp in length 55239 56338: gap of 100 bp 56339 57108: contig of 770 bp in length 57108: contig of 770 bp in length 57109: 57990: contig of 700 bp 58090: gap of 100 bp 58882: contig of 792 bp in length 58982: gap of 100 bp 59767: contig of 785 bp in length 153: gap of 100 bp 52654: contig of 801 bp in length 53545: contig of 791 bp in length 155: gap of 100 bp 100 bp 53645; gap of 100 bp 54432: contig of 787 bp in length 54532; gap of 100 bp in length 55342: contig of 810 bp in length p of 100 bp contig of 782 bp in length p of 100 bp 60659: contig of 792 bp in length 60759: gap of 100 bp 61556: contig of 797 bp in length 61656: gap of 100 bp p of 100 bp contig of 760 bp in length 1 (bases 1 to 67462)
Birren, B., Linton, L., Nusbaum, C. and Lander, E. Homo sapiens chromosome 17, clone RP11-960P18
Unpublished contig of 799 bp 0.9%; bcc. 100.0%; Pred. No. 0 0; Mismatches 100 bp 100 bp 49994: contig of 807 192 gaaaaaaattttttttttttttttttttt 221 57991 58090: gap of 58091 58882: contil 58883 59982: gap of 58983 59767: contil 59768 59867: gap of 59868 60659: contil 60660 60759: gap of 52754: gap of 53545: con 60760 61556: cont 61557 61656: gap of 50094: gap of 50893: con 50993: gap of 51753: con AC091595 AC091595.1 GI:13959212 HTG; HTGS\_PHASE0. Conservative 51853: Query Match Best Local Similarity Homo sapiens 49188 49995 50095 50894 50994 51754 51854 52655 52755 53546 54433 54533 human. 30; LOCUS RESULT 29 AC091595/c ORGANISM REFERENCE AUTHORS TITLE JOURNAL REFERENCE AUTHORS Matches ACCESSION VERSION KEYWORDS οy g

TITLE JOURNAL COMMENT

```
49 36148; gap of 100 bp 11 tength 36894; contig of 746 bp in length 36994; contig of 746 bp in length 310 37729; contig of 735 bp in length 310 37829; gap of 100 bp 100 b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      contig of 741 bp in length p of 100 bp contig of 749 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         44: gap of 100 bp 33516: contig of 772 bp in length 116: gap of 100 bp 116: gap of 100 bp 100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             in length
                                                                                                                                                                                                                                                                                                                                                                                          length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                         26757; contig of 723 bp in 16
887; gap of 100 bp 10 16
887; gap of 100 bp 10 16
695; gap of 100 bp 10 16
28428; contig of 738 bp in 16
28428; contig of 738 bp in 16
29287; contig of 759 bp in 16
3937; gap of 100 bp 10 16
3033; contig of 759 bp in 16
3054; contig of 721 bp in 16
30954; contig of 721 bp in 16
                                                                                                                                                                                                                                             ü
                                                                                                                                                                                                                                                                                           ņ
                                                                                                                                                                                                                                                                                                                                                                                          ţu
                                                                                                                                                                                                                                                                                                                                                                                                                                          'n
            1441: gap of 100 bp
19167: contig of 726 bp in
1267: gap of 100 bp
19999: contig of 732 bp in
19999: contig of 732 bp in
10999: gap of 100 bp
1035: gap of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3313: gap of 100 bp 47076: contig of 763 bp 1 176: gap of 100 bp 47929: contig of 753 bp 1 8029: gap of 100 bp 48784: contig of 755 bp 1 8884: gap of 100 bp
                                                                                                                                                                                                                                                                                                                                                             ap of 100 bp

: contig of 752 bp 1

pap of 100 bp

: contig of 748 bp 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ap of 100 bp: contig of 748 bp
                                                                                                                                                                                                            p of 100 bp contig of 737 bp p of 100 bp
                                                                                                                                                                                                                                                                                                             ap of 100 bp contig of 747 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     71: gap of 100 bp
44509: contig of 738 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   44609: gap of 100 bp
45346: contig of 737 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 p of 100 bp contig of 767 bp
                                                                                                                                                                                                                                                                                        contig of 760 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     47176: gap of
47929: contig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cont.; gap of 46213:
                                                                                                                                                                                                                                                                                                                                                                                                                                             cont
26757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cont : gap of 31795:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cont
47076:
                                                                                              cont 30835: 20835:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         . gap of 36894:
1: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          35300: gap of
36048: cont
                                                                                                                                                                                                                   gap of
                                                                                                                                                                                                                                                                 gap of
                                                                                                                                                                                                                                                                                                                                                                gap of
                                                                                                                                                                                                                                                                                                                                                                                                                   gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   48884: gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gap of
                                                                                                                                                                                                                                                                                                               187: gap c
24234: co
                                                                                                                                                                                                                                                                                                                                                                                       25086
                                                                                                                                                                                                                                          22527
                                                                                                                                                                                                                                                                                           23387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            32644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       46313:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     48029:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                31895:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    45446:
                                                                                                                  20099:
                                                                                                                                                                                                                                                                                                                                                                   24334:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               31054:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            34469:
                                                                                                                                                                20935:
                                                                                                                                                                                                                 21790:
                                                                                                                                                                                                                                                                                                                                                                                                                 25186:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               26857:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28528:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 29387:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 30233;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             27695:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            33616:
                                                                                                                                                                                                                                                                                                                  23487
                                                                                                                                                                                                                                                                 22627
                                                                    19267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                32744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 26034
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     43771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0134
                                                                                                                                                                                                                                                                                                                                                                                            24335
25087
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4510
                                                                                                                                                                                                                 21691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6758
                                                                                                                                                                                                                                                                                                                                                                                                                                       25187
                    Stojanovic, N., Strauss, N., Subramanian, A., Talamas, J., Tesfaye, S.
                                                                                                                                            for Genome
                                                                                                                                                                                                                                                            Center: Whitehead Institute/ MIT Center for Genome Research
                                 Theodore, J., Travers, M., Travis, N., Trigilio, J., Vassiliev, H., Viel, R., Vo, A., Wilson, B., Wu, X., Wyman, D., Ye, W.J., Young, G., Zainouu, J., Zembek, L., Zimmer, A. and Zody, M.
Direct Submission
Submitted (07-MAY-2001) Whitehead Institute/MIT Center for Ger Research, 320 Charles Street, Cambridge, MA 02141, USA All repeats were identified using RepeatMasker:
Smit, A.F. & Green, P. (1996-1997)
http://ftp.genome.washingcon.edu/RM/RepeatMasker.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NOTE: This record contains 80 individual sequencing reads that have not been assembled into contigs. Runs of N are used to separate the reads and the order in which they appear is completely arbitrary. Low-pass sequence sampling is useful for identifying clones that may be gene-rich and allows overlap relationships among clones to be deduced.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              However, it should not be assumed that this clone will be sequenced to completion. In the event that the record is updated, the accession number will
                                                                                                                                                                                                                                                                                                                                                             Contact: sequence_submissions@genome.wi.mit.edu
------ Project Information
Center project name: L13222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100 bp
of 698 bp in length
100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100 bp
of 742 bp in length
100 bp
of 751 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            contig of 744 bp in length of 100 bp contig of 737 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gap of 100 bp 9959: contig of 722 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19: gap of 100 bp 10866: contig of 747 bp in length 16: gap of 100 bp 1649: contig of 743 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100 bp
745 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    774 bp in length
100 bp
776 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       16837: gap of 100 bp
17518: contig of 681 bp in length
17518: gap of 100 bp
18341: contig of 723 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    820: gap of 100 bp
1575: contig of 755 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                of 100 bp contig of 765 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 00 bp
745 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100 bp
711 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100 bp
764 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ap of 100 bp contig of 718 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               contig of 720 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  of 100 bp contig of 732 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             contig of 748 bp in length
                                                                                                                                                                                                                                                                                                                                      site: http://www-seq.wi.mit.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ф
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Center clone name: 960_P_18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           12460: contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         12560: gap of
13324: contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           43: gap of 1
15919: contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5043: contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         con.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cont gap of 10806:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5: gap of 2407: con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4: gap of
8292: con
2: gap of
9137: con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gap of
                                                                                                                                                                                                                                                                                                               Center code: WIBR Web site: http://w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gab
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gap (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               720:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4948:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5792:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4100:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            7494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      11749:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      16019:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               10059:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           10906:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15143:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2507:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1675:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3349:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4200:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5048:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  5892:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6729:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7594:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8392:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9237:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        be preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        14170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2408
2508
3250
3350
4101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               50449
50449
50449
50449
6630
6730
7495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         16738
16838
17519
17619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2461
```

MA 02141, USA

```
Center: Whitehead Institute/ MIT Center for Genome Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        arbitrary. Low-pass sequence sampling is useful for identifying clones that may be gene-rich and allows overlap relationships among clones to be deduced. However, it should not be assumed that this clone will be sequenced to completion. In the event that
                                All repeats were identified using RepeatMasker:
Smit, A.F.A. & Green, P. (1996-1997)
http://ftp.genome.washington.edu/RM/RepeatMasker.html
                                                                                                                                                                                                                                                                                                                                                                                                                                sequencing reads that have not been assembled into contigs. Runs of N are used to separate the reads and the order in which they appear is completely
                                                                                                                                                                                                                                           the record is updated, the accession number will
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 713: contry ...
714 813: gap of 100 bp
814 1531: contig of 718 bp in length
100 bp
100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         contig of 691 bp in length of 100 bp contig of 718 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           of 100 bp contig of 722 bp in length of 713 bp in length of 110 bp contig of 713 bp in length of 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            87: gap of 100 bp
13779: contig of 692 bp in length
79: gap of 100 bp
14593: contig of 714 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              contig of 729 bp in length of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 of 100 bp contig of 714 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       p of 100 bp contig of 731 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     p of 100 bp contig of 725 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15520: gap of 100 bp 16256: contig of 736 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  contig of 688 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   contig of 740 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        contig of 727 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      737 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                contig of 727 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18730: contig of 710 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                       NOTE: This record contains 90 individual
Research, 320 Charles Street, Cambridge,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         f /*.
100 bp
~14 bp j
                                                                                                                                                                                                                  Web site: http://www-seq.wi.mit.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100 bp i
f 719 bp i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              dq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       30: gap of 100 bp
19560: contig of 730 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    oof 100 bp
contig of 734 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ap of 100 bp contig of 713 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ot
contig of 714 b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     dq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9: gap of 100 bp
10518: contig of 739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      contig of
                                                                                                                                                                                                                                                                                                                                                Center clone name: 96_H_13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                contig of
                                                                                                                          ---- Genome Center
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .4: gap of 12987:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cont
15420:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60: gap of
20394: cont
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0519 10618; gap of 10619 11349; con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1350 11449: gap of 1450 12174: conf
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9: gap of 4757: con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5: gap of
9679: con
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gap of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ): gap (7212: 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                , 4857: 9ar
5576:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3939:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8025:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8865:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   17920:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2360:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6390:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17093
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2175 12274:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 4594 14693:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               16257 16356:
16357 17096:
17094 17193:
17194 1792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19660:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   17193:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18830:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3780 13879:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6490:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8965:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2460:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3248:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4039:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5676:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        7312:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8125:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9779:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   preserved.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2988 13087
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4758
4858
5577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7313
8026
8126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8866
8966
9680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             7921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        14694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5677
6391
6491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    19561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1461
                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           E. (Loases 1.0.7 sold).

S Birren, B., Linton, L., Nusbaum, C., Lander, E., Ali, A., Allen, N., Anderson, S., Barna, N., Bastien, V., Boguslavkiy, L., Boukhgalter, B., Anderson, S., Barnatata, J., Campoplano, A., Cangra, J., Chang, J., Chang, J., Changollano, R., Chang, J., Changel, S., Collymore, A., Cook, A., Cooke, P., DeArellano, K., Dewar, K., Diaz, J. S., Dodge, S., Faro, S., Fritzhugh, W., Gage, D., Galagan, J., Gardyna, S., Ginde, S., Gord, S., Goyette, M., Graham, L., Grand-Pierre, N., Kanatas, A., Karatas, A., Kalls, C., LaRoque, K., Lamazares, R., Landers, T., Lehoczky, J., Marquis, N., Matthews, C., McCarthy, M., McKernan, K., Meldrim, J., Matthews, C., MicCarthy, M., Mickeran, R., Marquis, N., Matthews, C., MicCarthy, M., Menga, V., Murphy, T., Naylor, J., Nguyen, C., Nicol, R., Norbu, C., Norman, C.H., O'Connell, P., O'Donnell, P., O'Donnell, P., O'Donnell, P., O'Donnell, P., O'Donnell, P., Pollara, V., Raymond, C., Peterson, K., Phunkhang, P., Pierre, N., Pollara, V., Raymond, C., Peterson, K., Phunkhang, P., Pierre, N., Pollara, V., Raymond, C., Peterson, K., Phunkhang, P., Pierre, N., Pollara, V., Raymond, C., Peterson, K., Phunkhang, P., Pierre, N., Pollara, V., Raymond, C., Peterson, K., Phunkhang, P., Pierre, N., Pollara, V., Raymond, C., Peterson, K., Peterson, K., Pollara, V., Raymond, C., Peterson, K., Peterson, K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AC109316 73858 bp DNA linear HTG 03-FEB-2002
Homo sapiens chromosome 8 clone RP11-96H13 map 8, LOW-PASS SEQUENCE
SAMPLING.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Retta,R., Rieback,M., Riley,R., Rise,C., Rogov,P., Roman,J.,
Rosetti,M., Roy,A., Santos,R., Schauer,S., Schupback,R., Seaman,S.,
Severy,P., Spencer,B., Stange-Thomann,N., Stojanovic,N.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Strauss, N., Subramanian, A., Talamas, J., Tesfaye, S., Theodore, J., Topham, K., Travers, M., Travis, N., Trigilio, J., Vassillev, H., Viel, R., Vo, A., Wilson, B., Wu, X., Wyman, D., Ye, W. J., Young, G., Zimmer, A. and Zody, M.

Direct Submission
Submitted (03-FEB-2002) Whitehead Institute/MIT Center for Genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 73858)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ó;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 67462;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   core 30; DB 2; Length 0/4
Pred. No. 0.0018;
                                                                                                                                              18 51417; gap of 100 bp 18 52169; contig of 752 bp in length 10 52069; gap of 100 bp 10 53008; contig of 739 bp in length 10 53008; contig of 739 bp in length 10 5361; contig of 753 bp in length 10 5361; gap of 100 bp 10 b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    56548: gap of 100 bp 57289: contig of 741 bp in length 57389: gap of 100 bp 58100: contig of 711 bp in length 58200: gap of 100 bp
   in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                          71: gap of 100 bp 56448: contig of 777 bp in length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Birren, B., Linton, L., Nusbaum, C. and Lander, E. Homo sapiens chromosome 8, clone RP11-96H13 Unpublished
                      49735: gap of 100 bp
50474: contig of 739 bp
50574: gap of 100 bp
51317: contig of 743 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Preα. ....
100.0%; Preα. ....
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Db 21115 AAAAAAATTTTTTTTTTTTTTTTTTTTT 21086
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       193 aaaaaaatttttttttttttttttttg 222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 30;
49635: contig of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GI:18482245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (bases 1 to 73858)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 55671:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HTG; HTGS_PHASE0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                            53009
53109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  58101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AC109316.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AC109316
```

human.

ORGANISM

SOURCE

AUTHORS TITLE JOURNAL REFERENCE

AUTHORS

REFERENCE

DEFINITION

AC109316

ACCESSION

VERSION KEYWORDS

Query Match

Matches

ò

in length

in length

TITLE JOURNAL

```
21322 21323; aga of 100 bp 22132 21323; aga of 100 bp 22133 2132; aga of 100 bp 22133 2133; aga of 100 bp 22133; aga of 100 bp
```

Search completed: June 14, 2002, 22:06:41 Job time: 23350 sec

1

us-09-667-130-1.rni

```
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
1, Appli
                                                                                                                  Sequence 1, Sequence 1, Sequence 1, Sequence 1, Sequence 1, Sequence 107, Sequence 107, Sequence 11, Sequence 1, Sequence 3, S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 1, Application US/08072610
Patent No. 5532133
CENERL INFORMATION:
TITLE OF INVENTION: Plasmodium vivax Blood Stage Antigens,
TITLE OF INVENTION: Monoclonal Antibodies, and Diagnostic Assays
NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
ADDRESSEE: Darby and Darby
STRRET: 805 Third Ave.
                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 3337;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
COMPUTER: IBM PC COMPUTER: 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 1;
US-09-385-982-531

US-08-41-629-1

US-08-41-629-1

US-08-286-020-1

US-08-286-020-1

US-08-380-186-1

US-08-30-000A-1

US-09-030-000A-1

US-09-030-000A-1

US-09-031-11

US-09-071-224-1

US-09-071-224-1

US-09-071-224-1

US-09-071-224-1

US-09-071-224-1

US-09-071-224-1

US-09-071-224-1

US-09-071-224-1

US-08-187-050-1

US-08-187-050-1

US-08-132-168A-31

US-08-132-168A-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 3337;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORIGINAL SOURCE:
ORGANISM: Plasmodium vivax
IMMEDIATE SOURCE:
CLONE: PVMB3.3.1
US-08-072-610-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY: linear
MOLECULE TYPE: DNA (genomic)
HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           USA
       CITY: Ner
STATE: N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ANTI-SENSE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-08-072-610-1
       Query Match
                                               0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
                                                                                                                                                                                                                                                 June 14, 2002, 17:02:26 ; Search time 72.29 Seconds (without alignments) 11338.761 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 1, Appli
Sequence 16, Appl
Sequence 7, Appli
Sequence 4, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1, Appli
1, Appli
45, Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         586, App
342, App
1, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   41, Appl
41, Appl
427, App
3, Appli
3, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3, Appli
5, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 1, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 gaatteeggtaaagtaacaa...........tettataaaataaataatte 3337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Seguence 1,
Seguence 1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /cgn2_6/ptodata/1/ina/5A_COMB.seq:*
/cgn2_6/ptodata/1/ina/5B_COMB.seq:*
/cgn2_6/ptodata/1/ina/6B_COMB.seq:*
/cgn2_6/ptodata/1/ina/6B_COMB.seq:*
/cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*
/cgn2_6/ptodata/1/ina/PcTUS_COMB.seq:*
                                   GenCore version 4.5
Copyright (c) 1993 - 2000 Compugen Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-08-150-331-45
US-08-467-559B-1
US-08-396-479B-7
US-09-740-035-3
US-09-385-982-342
US-09-385-982-342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PCT-US92-10792-1
US-09-065-058-16
US-08-828-007-7
US-07-867-106-4
US-09-244-794A-1
US-09-247-190-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -08-668-123-41
-09-385-982-427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JS-08-131-365B-41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -08-313-681A-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-072-610-1
US-08-719-822B-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -08-628-413-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-865-297-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            383533 segs, 122816752 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Post-processing: Listing first 45 summaries
                                                                                                                                                                                     - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OLIGO_NUC
Gapop 60.0 , Gapext 60.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Issued_Patents_NA:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                               US-09-667-130-1
3337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             %
Query
Match Length DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2406
2406
19736
19736
337
342
523
547
547
567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           \begin{array}{c} \mathbf{c} \\ \mathbf{
                                                                                                                                                                                                                                                                                                                                                                                                                   Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Word size :
                                                                                                                                                                                     OM nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Searched:
                                                                                                                                                                                                                                                            Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Result
No.
```

υυ

Bes	Best Loca] Matches 33	al Similarity 100.0%; Pred. No. 0; 3337; Conservative 0; Mismatches 0; Indels 0; Gaps 0;		7 7
Qy Db	1 1	gaattccggtaaagtaacaactatggtttcgtatctatatata	S G	i i
Qy	61	ttttgcttttcttttaattcatgcttcaacagtaagataaaaataatctataaaaactgc 120 	Oy Dp	7 7
\ \triangle \ \tri		) m – «	Oy	2 2
Qy Db			Qy	7 7
oy Op	241	aattggaaaatgcttctgatgatgttgtagaggtggaggatccttcaaacgacggtttag 300 	Qy	ਜ ਜ
Oy Dp	301	aattagaagaggaaattttgatgatgagaattcaggtgatgaactcttttagatgcta 360 		a ㅋ.
Oy Dp	361	cococgaagatgactttgoottaacagatttgocaattgaagacgatgaggaagtcaacg 420 	Oy Op	7 7
ç qa	421	m — ta		급 급
Oy Dp	481	atggctcaacagatgatacggaaacagaaggactacctggtgatatggaaggagaag 540 	oy O	# #
Oy Op	541	aagaagctggcgatatgggaagcaggggaagaagctggtgatttggaagcaggggaagaa 600 		16
Ογ Dp	601	ctggcgatttggaagcaggggaagaactggcgatttggaagcaggggaagcaggtg 660 		16
oy G	661	atttggaagcaggggaagaactggcgatttggaagcaggggaagaactggagatgcgg 720 	Oy Dp	A A
Oy Dp	721	aaactgaagaaggagcaactggagatgcggaaactgaaaatggagcaactgtgtatgta	Oy Op	ñ ñ
Qy Db		_ ω ω π—υ	Qy	# #
oy O	841	tacaacctgccgatagtaatgatgccctctttggaagtattttggataagatataatt 900 		13
oy Og	901	ttgatcatattaaagatttcgagccactattcgaacaaattgtggcggtactgctaaac 960 		12
Qy	961	atgttacgggacaagaattgccaatgaaacctgtaccattaccagtggcagaagagcccg 1020 		5 5 5
δ	1021	cgcaagtaccagcggaagaattagatgccactccagaggatgacttcgcattagatgtta 1080 	do do	7 7

QQ	1021	CGCAAGTACCAGCGGAAGAATTAGATGCCACTCCAGAGGATGACTTCGCATTAGATGTTA 1080
QY	1081	cagaatctcccgaggaagtagaattagtattagatgaagaggcaactgaagaagaatcaa 1140
QQ	1081	AGAATCTCCCGAGGAAGTAGAATTAGTATTAGATGAAGAGGCAACTGAAGAAGAATCA
Qy	1141	cggaagtgggaccaacggaagaaggaccaaccgaagaattagatgccactccagaggatg 1200
QQ	1141	SGAAGTGGGACCAACGGAAGAAGGACCAACCGAAGAATTAGATGCCACTCCAGGGAT
Οy	0	9
qq	1201	ATTTCGCATTAGACGAAACTGCAGAAGGAGAAACAGAAGAAACGTAGAGGGAGAAAA 12
Qy		32
qa		saagaagctgcagaaggagaagtatcagaagaaatcccagaaggagaagaagagttag 132
Qy	1321	m
qq	1321	SCAACTCCAGAGGATGATTTCGCATTAGATGGAACTACATTAGAAGAAACCGAAGAAA 1
Qγ	38	4 4
QQ	1381	IGCAGAAGGAGAAGAAACCGTAGAGGAGAAGAAACCGTAGAGGGAGAAGAACCGTAG 1.
ογ	4	20
qq	1441	GGGAGAAGAAGCTGCAGAAGAAGAAGAAGAAGTTAGAGGCAACTCCAGAGGATGACTTC
Qy	0	56
qq	1501	ITAGAAGAACCATCAGGAGAAGGAGAAGGGGAAGGAGGAGGAGGAGGGGAAGGAGA
Οy	1561	gagaagcgttagtagcagtgccagtagtggccgaaccggtagaagtagtgactcctgctc 1620
qq	1561	AGAAGCGTTAGTAGCAGTGCCCAGTAGTGGCCCGAACCGGTAGAAGTAGTGACTCCTGCT
Qy	1621	agcctgtcaaaccaatggtcgctccaacggcagatgaaactttattcgttgatatcttag 1680
qq	1621	GCCTGTCAAACCAATGGTCGCTCCAACGGCAGATGAAACTTTATTCGTTGATATCTTAG 1
Qy	1681	ataacgatttaacgtatgcagacattacatcctttgagccattatttaaacaaatcctca 1740
qq	1681	SGATTTAACGTATGCAGACATTACATCCTTTGAGCCATTATTTAAACAAATCCTCA 1
Qy	1741	aggatcctgatgcaggagggctgtaacagtaccatcaaaggaagcacctgtacaagtac 1800
qu	₹*	NTCCTGATGCAGGGGGGGGTGTAACAGTACCATCAAAGGAAGCACCTGTACAAGTA
Qy	1801	cagtggcagtagggcccgcgcaagaagtgccaacggaagaattgatgcaactccaagagg 1860
q <sub>Q</sub>	1801	stgccagtaggccccgccaagaagtgccaacggaagaattgatgcaactccaagag
Qy	1861	acgatttcgaattagaaggaactgcagaagctccagaggaagga
qa	1861	ATTTCGAATTAGAAGGAACTGCAGAAGCTCCAGAGGAAGGA
Qy	1921	gaag
qu	1921	AGAAGGAGAACCAACGGAAGAAGAGCCAAGGAGGAGGGGAGGCCAACAGGAGG
Qy	1981	cagaagaagaattagaggcaactccagaggacgatttcgaattagaagaaccaacaggag 2040
QQ	1981	<u> AGAAGAAGAATTAGAGGCAACTCCAGAGGACGATTTCGAATTAGAAGAACCAACAGGA</u>
Qy	2041	aagaagtagaagaaaccgtagagggcgaagaaactgcagaaggagaagaagtggaagagg 2100
qq	2041	aggtagaagaaaccgtagagggcgaagaaactgcagaaggagaagaggggaagag
Qγ	0	16
qa	2101	acctgcagaagtagaagtggaagaggtacctgcagaagtagaagtggaa

m

```
; Sequence 1, Application US/08719822B
; Patent No. 5874527
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                             ORGANISM: Plasmodium vivax
IMMEDIATE SOURCE:
                                                                                                                                                                                                                                                                                           TOPOLOGY: linear
MOLECULE TYPE: DNA (genomic)
HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 100.
Matches 3337; Conservative
                                                                                                                                                                                                                                                                                                                                          PvMB3.3.1
                                                                                                                                                                                                                                                                                                                0
                                                                                                                                                                                                                                                                                                               ANTI-SENSE: NO
ORIGINAL SOURCE
                                                   RESULT 2
US-08-719-822B-1
                                                                                                                                                                                                                                                                                                                                                US-08-719-822B-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                                                                                                                                  qq
    qq
                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Dp
                   ò
                                                                                        2400
                                                                                                     2460
                                                                                                                 2460
                                                                                                                                                                                                         2820
                                                                                                                                                       tgaaatggtttctcctaaaagaaaacgaatatttaggacaaagaatggaaaaaatggact 3180
                                                                                                                                                                                                                                                                                                                                                                                                                                               cagaatatagtcaaatttcaacaaaaggaaaggacccagctggtttgagaaaacgagagt
                                                                                                                                                                                                                                                                   ggagcgacgagaaatggaaaaaatggtttaaagcagaagtcaaatcccaaattgattcac
                                                                                                                                                                                                                                                                                                                tgicacaatitgaaaacaagaaaccaaagaatggitaatgaatcactggaaaaagaacg
                                                   AAGAAGTGGAAGAAGTGGAAGAAGTAGAAGTAGAGGTACCAGCGGTAGTAGTAGAAGTAG
       aagtggaagaggtaccagaagaagtggaagggtaccagaagagtggaaggtaccag
                                                                                                     aagaaccagtagaagaagaagatgtattacaattagtaataccatcggaagaagatatac
                                                                                                                                                                                                                                                                                                                                                                                                                                   TGAAATGGTTTCTCCTAAAAGAAACGAATATTTAGGACAAAGAATGGAAAAATGGACT
 taccagaagaagtagaagaggtacccgcagaagtagaagaagtggaagaggtaccagaag
                                    2221
                                                                                       2341
                                                                                                                2401
                                                                                                                                          2461
                                                                                                                                                                   2521
                                                                                                                                                                                                                     2641
                                                                                                                                                                                                                                              2701
                                                                                                                                                                                                                                                           2761
                                                                                                                                                                                                                                                                                                  2821
                                                                                                                                                                                                                                                                                                                                                     2941
                                                                                                                                                                                                                                                                                                                                                                                                        3061
2161
                                                 2281
                                                              2281
                                                                           2341
                                                                                                    2401
                                                                                                                             2461
                                                                                                                                                       2521
                                                                                                                                                                                                         2641
                                                                                                                                                                                                                                  2701
                                                                                                                                                                                                                                                                                     2821
                                                                                                                                                                                                                                                                                                              2881
                                                                                                                                                                                                                                                                                                                           2881
                                                                                                                                                                                                                                                                                                                                         2941
                                                                                                                                                                                                                                                                                                                                                                  3001
                                                                                                                                                                                                                                                                                                                                                                               3001
                                                                                                                                                                                                                                                                                                                                                                                            3061
                                                                                                                                                                                                                                                                                                                                                                                                                     3121
                                                                                                                                                                                                                                                                                                                                                                                                                                  3121
                                                                                                                                                                                                                                                                                                                                                                                                                                                            3181
                        2221
                                                                                                                                                                                                                                                                                                                                                                                                                                               3181
ò
          qq
                                  g
                                                ò
                                                           a
                                                                                    g
                                                                                                    ò
                                                                                                             g
                                                                                                                         ò
                                                                                                                                      QQ
                                                                                                                                                      ò
                                                                                                                                                                8
                                                                                                                                                                            ò
                                                                                                                                                                                          g
                                                                                                                                                                                                     õ
                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                        ó
                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                               õ
                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                Db
                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                        ð
                                                                        ò
```

```
3241 CGCCTAACCAAGGAAGAAGGAATCAATTGTTAATGAAATAAAAGTTTGAATTATAGAA 3300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 ttttgcttttcttttaattcatgcttcaacagtaagataaaaataatcataaaaactgc 120 | 120 | 121 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 gaattocggtaaagtaacaactatggtttcgtatctatatataaaccttactaattttatc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 3337;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Barrwell, John TTLE OF INVENTION: Plasmodium vivax Blood Stage Antigens NUMBER OF SEQUENCES: 4 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
ADDRESSEE: Darby and Darby
STREET: New York
CITY: New York
COMUTRY: UGA
LIP: 10022-7513
COMPUTER: READALLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: READALLE FORM:
MEDIUM TYPE: Ploppy disk
COMPUTER: READALLE FORM:
MEDIUM TYPE: Patentin Release #1.0, Version #1.25
SOFTWARE: Patentin Release #1.0, Version #1.25
SOFTWARE: Patentin Release #1.0, Version #1.25
SOFTWARE: O9/30/96
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/719,822B
FILING DATE: 09/30/96
CLASSIFFCATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: GOGOTIS, Adda
RESTRAION NUMBER: 29,714
REFERENCE/DOCKET NUMBER: 5986/17686US2
TELEPHONE: (212)53-6237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB
                                                                                                                                                                                                        3301 aaaagaacagattattctcttataaaataaattc
                                                                                                                                                                                                                                                                               100.0%; Score 3337;
100.0%; Pred. No. 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Mismatches
```

aaa     AAA aat	scaatattgaaaaaattttttttttttttttttttttttgttctacagaacgattta 
AATTG	January Control of the Control of th
aatta        AATTA	agaagagaaaattttgatgagaattcaggtgatgatgatgaactcttttagatgcta 360 
0000	cgaagatgactttgccttaacagatttgccaattgaagacgatgaggaagtcaacg 420 
aaac           AAAC	cgttagatggagtgaatcattaggagagtttccactgaagatatggaaacagaag 480 
atg     ATG	gotcaacagatgatacggaaacagaagaaggactacctggtgatatggaaggagaag 540 
aag      AAG	aagetggegatatggaageagggaagaagetggtgatttggaagcaggggaagaa 600 
ctg     CTG	gcgatttggaagcaggggaagtagcgatttggaagcaggggaagaagttggt 660 
att 	tttggaagcaggggaagaactggcgatttggaagcaggggaagaaactggagatgcgg 720 
aaad    AAA(	actgaagaaggagcaactggagatgcggaaactgaaatggagcaactgtgtatgta
a = 6	acagaagatagttcagctgatggagcagaaaagtacatgttcctgctcaagaaaatg 840 
TĀ I	acaacctgccgatagtaatgatgcctctttggaagtattttggataaagatataattt 900 
1 = t	gatcatattaaagatttcgagccactattcgaacaaattgtggcgggtactgctaaac 960 
atc 	gttacgggacaagaattgccaatgacactgtaccattaccagtggcagaagagcccg 1020 
2-5	caagtaccagcggaagaattagatgccactccagaggatgacttcgcattagatgtta 1080 
g = 5	cagaatctcccgaggaagtagaattagtattagatgaagaggcaactgaagaagaatcaa 1140 
5-5	gaagtgggaccaacggaagaaccaaccgaagaattagatgccactccagaggatg 1200 
ga     GA?	atttogcattagacgaaactgcagaaggagaaacagaagaaacgtagaggagaagaaa 1260 
caga	agaagctgcagaaggagaagtatcagaagaaactccagaaggagaagaagaagttag 1320

2400 1740 2160 2220 2220 2280 1440 1560 1620 1620 1680 1740 1800 1800 1860 1920 1980 2040 2040 2100 2100 2160 1500 1680 aggatcctgatgcaggagggctgtaacagtaccatcaaaggaagcacctgtacaagtac cagaagaagaattagaaggcaactccagaggacgatttcgaattagaagaaccaacaggag gaqaaggagaaccaacggaagaagagccaagaagaaggagagaccaacagaaggagagtgc 1561 1861 1921 2041 2041 2101 2161 2281 1321 1441 1501 1621 1861 1981 1981 2101 2161 2221 2281 2341 1261 1441 1501 1681 1681 1741 1741 1801 2221 1321 1381 1561 1621 1801 1921 1381 qq g g qq QY g δy g g QC ò a ŏ g Qγ QQ οy OD δy Q Óγ g Óγ qq δ Ω ò qq Óγ QΫ рþ Qγ δ Qγ Ω ò

S

```
241 AATTGGAAAATGCTTCTGATGATGTTGTAGAGGTGGAGGATCCTTCAAACGACGGTTTAG
                                                                                                                                                                                                                                                                                                                                                                                                                                         aattggaaaatgcttctgatgatgttgtagaggtggaggatgatccttcaaacgacggtttag
                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                               Length 3337;
Stage Antigens, and Diagnostic
                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                    Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                            0;
                                                                                                                                                                                                                                                                                                                                                                                              DB 4;
vivax Blood
Antibodies,
                                                                                                                                                                                                                                                                                                                                                                                                               0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                              100.0%; Score 3337; 100.0%; Pred. No. 0;
                                                                                                                                                                                                                5986/17686US3
                                                                                                 COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIA Release #1.0, V
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/092,458
FILING DATE:
CLASSIFICATION:
                                                                                                                                                                     08/719,821
                                                                                                                                                                                                                     TELECOMMUNICATION INFORMATION:
TELEPHONE: (212)527-7700
TELEFAX: (212)753-6237
TELEFAX: 236687
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 3337 base pairs
Plasmodium
Monoclonal
                                                                                                                                                                                              NAME: Gogoris, Adda
REGISTRATION NUMBER: 29,714
REFERENCE/DOCKET NUMBER: 59
        TITLE OF INVENTES: 4
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                            ), ORGANISM: Plasmodium vivax

), IMMEDIATE SOURCE:

CLONE: PVMB3.3.1

US-09-092-458-1
                                                                                                                                                                                                                                                                                                           DNA (genomic)
                                                                                                                                                            PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/7
FILING DATE: 09/30/96
ATTORNEY/AGENT INFORMATION:
                                                                                           Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity 100.
Matches 3337; Conservative
                                        : 805 Third Ave.
                                                                                                                                                                                                                                                                                nucleic acid
INVENTION:
INVENTION:
                                                                                                                                                                                                                                                                                                   linear
                                                          New York
                                                                        10022-7513
                                                                                  COMPUTER READABLE
                                                                                                                                                                                                                                                                                                           MOLECULE TYPE: DN
HYPOTHETICAL: NO
ANTI-SENSE: NO
                                                                                                                                                                                                                                                                                          STRANDEDNESS:
                                                                 USA
                                                                                                                                                                                                                                                                                                                                    ORIGINAL SOURCE
                                                                                            MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                   TOPOLOGY:
                                                         STATE: N
                                        STREET:
CITY: Ne
                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    οy
                                                                                                                                                                                                                        2820
                                                                                                                                                                                                                                         2820
                                                                                                                                                                                                                                                          2880
                                                                                                                                                                                                                                                                          2880
                                                                                                                                                                                                                                                                                                                                                            3060
                                                                                                                                                                                                                                                                                                                                                                                                                                                3180
                                                                                                                                                   tgaaatggtttctcctaaaagaaaacgaatatttaggacaaagaatggaaaaaatggact 3180
AAGTACCAGCGGTAGTAGAAGAAGAGGTGCCAGAAGAAGTAGAAGAAGAAGAAGAAGAGG 2400
                                                                                                                                                                                                                       ggagcgacgagaaatggaaaaatgtttaaagcagaagtcaaatcccaaattgattcac
                                                                                                                                                                                                                                                                          2821 GGAGCGACGAGAAATGGAAAAATGGTTTAAAGCAGAAGTCAAATCCCAAATTGATTCAC
                                                                                                                                                                                                                                                                                                                                                             aacggggttatggttctgaatcatttgaagttatgaccacatcaaaattattaaatgtgg
                actaccaagacgttccaaaggaatttatggaagaagaagaagaaactgcagtgtatccat
                                                                                                                             ; Sequence 1, Application US/09092458; Patent No. 6231861
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-092-458-1
                                                                                                                                                                    2641
                                2401
                                                                2461
                                                                                                                                                                                                                                                                                                                                           2941
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3301
                                                2461
                                                                                                  2521
                                                                                                                  2581
                                                                                                                                                    2641
                                                                                                                                                                                                                                                         2821
                                                                                                                                                                                                                                                                                          2881
                                                                                                                                                                                                                                                                                                          2881
                                                                                                                                                                                                                                                                                                                           2941
                                                                                                                                                                                                                                                                                                                                                           3001
                                                                                                                                                                                                                                                                                                                                                                            3001
                                                                                                                                                                                                                                                                                                                                                                                             3061
                                                                                                                                                                                                                                                                                                                                                                                                                              3121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                3181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3301
2341
                                                                                  2521
                                                                                                                                                                                                                                                                                                                                                                                                              3061
                2401
g
                                요
                                                                                                                               g
                                                                                                                                                                                                   g
                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                        qq
                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                             õ
                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                               õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6
               ò
                                               ò
                                                              g
                                                                                ò
                                                                                               g
                                                                                                              ò
                                                                                                                                                   ò
                                                                                                                                                                g
                                                                                                                                                                                  ò
                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                          ò
```

ö

Gaps 9 9 240

300

240

q

Barnwell, John

APPLICANT:

ŏ

1441 ag     1441 AG	1501 aa     1501 AA	1561 ga     1561 GA	1621 ag 	1681 at 			1861 ac     1861 AC	1921 ga       1921 GA	1981 Ca	2041 aa 11 2041 AA	2101 ta 	2161 ta     2161 TA	2221 aa       2221 AA	2281 aa      2281 AA	2341 aa    2341 AA	2401 aa 11 2401 AA	2461 aa	
Qy	Qy	0y D <b>b</b>	Qy Db	Qy	QY	qa .	Qy Dp	Qy Dp	Qy	oy Db	oy G	Ολ Dp	Q Q	Oy Dp	Oy Dp	Oy Dp	oy d	δλ
													-	,				_
																		•
420	48	י נט ני		099	720	780	840	90		1020	1080	1140	1200	1260	1320	1380	144	1440
tcaacg	cagaag	gagaag	aagaaa 	ctggtg 	atgegg          ATGCGG	atgtag         ATGTAG	aaaatg            AAAATG	taattt 	ctaaac         CTAAAC	agcccg          AGCCCG	atgtta         ATGTTA	aatcaa         AATCAA	aggatg           AGGATG	aagaaa          AAGAAA	agttag         AGTTAG	aagaaa	ccgtag	CCGTAG
aggaag 	Eggaaa 	Eggaag 	cagggg 	aagaag        AAGAAG	ctggag          CTGGAG	ctgtgt 	ctcaag 	aagata 	gtactg          stactg	cagaag 	cattag         CATTAG	aagaag 	ctccag 	agggag  - - -  AGGGAG	aagaag 	aaaccg	aagaaa	AAGAAA
acgatga 	aagata 	tgata 	oggaag 	cagggg         AGGGG	aagaaa         \AGAAA	gagcaa        sagcaa	tcctg	ggata 	2ggcgg 11111 reecee	cagtgg 	acttcg 	caactg	atgcca         ATGCCA	acgtag 	aaggag 	Cagaag	agggag	AGGGAG
tgaage 	cactga	acctgo	rtgatti 	ggaage 	agggga 	aaatgo 	acatgi 	tattt 	aattgi        \AATTG	attacc	iggatga        NGGATGA	agagge        NAGAGG	attaga         ATTAG	jaagaag         SAAGAAJ	tccaga 	tacatt	cgtag	CGTAG
gccaat	aggttte	aaggact	aagctgg	gegatti 	cggaage             GGAAGE	aactga 	aaaagt         \AAAAG	tggaag          TGGAAG	cgaaca 	tgtace	tccaga TCCAG	cagatga           racarca	cgaaga 	yaaacag 	aagaaa          AAGAAA(	tggaad 	agaaac	AAGAAAC
agattt 	aggage	agaaga	Iggaaga 	aactge          AACTGO	cgattt           CGATT	tgegga          TGCGG	agcaga 	sectett 	actatt 	gaaacc	tgccac        rrgccac	agtatt          AGTATT	raccaad         saccaad	l I I I I I	atcaga 	attage	gggagg	GGGAG
cttaac 	atcatt	ggaaac 	agcagg 	ggaaga        GGAAGA	aactgg             AACTGG	tggaga        TGGAGA	tgatgg         TGATGG	tgatgo         TGATGO	cgagcc         cgagcc	gccaat         GCCAAT	attaga         ATTAGA	agaatt           AGAATT	agaagg           AGAAGG	ctgcag         CTGCAG	agaagt          AGAAGT	tttcgc	cgtaga	CGTAGA
ctttgc 	aggtga 	tgatac 	tatgga          ATGGA	agcagg        AGCAGG	ggaaga          GAAGA	agcaac        AGCAAC	ttcagc           rrcAGC	tagtaa 	agattt        AGATTT	agaatt        AGAATT	ggaaga        GGAAGA	ggaagt        GGAAGT	aacgga 	acgaaa        ACGAAA	agaagg          AGAAGG	ggatga 	agaaac	AGAAAC
igatga 	gatgg	lacaga:	ggcga: 	ttggaa 	igcagg        IGCAGG	gaagga         GAAGG	igatag          GATAG	gccga	attaa 	Iggaca IIIII GGACA	CCAGC	cccga 	Iggacc 	attag         ATTAG	getge         GCTGC	ccaga	iggaga IIII	GGAGA
cccgaagatgactttgccttaacagatttgccaattgaagacgatgaggaagtcaacg 	aaacgttagatggaggtgaatcattaggagggtttccactgaagatatggaaacagaag 	atggctcaacagatgatacggaaacagaagaagactacctggtgatatggaaggagaag 	aagaagctggcgatatggaagcagggaagaagctggtgatttggaagcaggggaagaa 	ctggcgatttggaagcaggggaagaactggcgatttggaagcaggggaagctgtt 	atttggaagcaggggaagaactggcgatttggaagcaggggaagaactggagatgcg 	aaactgaagaaggagcaactggagatgcggaaactgaaaatggagcaactgtgtatgta	acacagaagatagttcagctgatggagcagaaaagtacatgttcctgctcaagaaatt 	tacaacctgccgatagtaatgatgcctctttggaagtattttggataaagatataattt 	ttgatcatattaaagatttcgagccactattcgaacaaattgtggcgggtactgctaaac 	atgttacgggacaagaattgccaatgaaacctgtaccattaccagtggcagaagagccg 	cgcaagtaccagcggaagaattagatgccactccagaggatgacttcgcattagatgtta 	cagaatctcccgaggaagtagaattagtattagatgaagaggcaactgaagaatcaa 	cggaagtgggaccaacggaaggaccaaccgaagaattagatgccactccagagagatg 	gatttogcattagacgaaactgcagaaggagaaacagaagaaacgtagagggagaagaa 	cagaagaagctgcagaaggagaagtatcagaagaactccagaagagagag	aggcaactccagagatgatttcgcattagatggaactacattagaagaaaccgaagaaa	ctgcagaaggagaagaaaccgtagaggagaagaaaccgtagaggagaaaccgtag 	GCAGA
361 cc				601 ct 	661 at     661 AT	721 aa   14   721 AA	781 ac   18   781 AC	841 ta     1   841 TA	901 tt	961 at     961 AT	1021 cg     1   1021 CG	1081 ca     1   1081 CA	1141 cg 	1201 ga     1   1201 GA	1261 ce 	1321 aç		1381 CT
ò d	yo da	1 & B	Oy Dp	oy Op	Qy Db	Oy Dp	O, Dp	Qy Db	oy Og	Qy Db	Qy Db	Oy Db	Oy Dp	Oy Db	Oy Db	ò á	ς δ	Dp

Qy	1441	agggagaagaagctgcagaaggagaagaagagttagaggcaactccagaggatgacttcc 1500 
Qy Dp	1501	ttagaagaaccatcaggagaaggagaaggggaaggagaaaggggaaggggaaggaga
oy d		agaagcgttagtagcagtgccagtagtggccgaaccggtagaagtagtgactcctgctc 162
oy o	1621	normocoli moi moi mormoi moi moi moi moi moi moi moi moi moi
QQ	1621	
δλ		agacattacatcctttgagccattatttaacaaatcctca 174
qa	1681	TAACGATTTAACGTATGCAGACATTACATCCTTTGAGCCATTATTAAACAAATCCTCA 174
QY d	1741	aggatectgatgcaggaggctgtaacagtaccatcaaaggaagcactgtacaagtac 1800
2 0	. 0	antogradiagoscoccaaqaaqtoscaacqaaattaatqaactccaaqaqq 186
7 q	0	· ·
Qy	1861	cgatttcgaattagaaggaactgcagaagctccagagggaaggaa
qq	1861	TTCGAATTAGAAGGAACTGCAGAAGCTCCAGAGGAAGGAGAATTAGTATTAGAAG 19
QY	1921	
QQ	1921	agaaggagaaccaacggaagaagaggccaagaaggaggag
oy E	1981	cagaagaagaattagaggcaactccagaggacgatttcgaattagaagaaccaacaggag 2040 
àò	4	aaaqtaqaaqaccqtaqaqqqqqqaaqaaactqcaqaaqqaaq
d d	4	$\dot{-}$
οy	2101	agaagtagaagaagtggaagaggtacctgcagaagtagaagtggaagagg 216
QQ	2101	ACCTGCAGAAGTAGAAGTGGAAGTGGAAGTACCTGCAGAAGTAGAAGTGGAAGAG
Qy	2161	22
qa	2161	ccagaagaagtagaaggtacccgcagaagtagaagaggggaagaggtaccagaa
Οy		
<b>q</b> 0	2221	STGGAAGAGTACCAGAAGAAGTGGAAGAGGTACCAGAAGAAGAAGAGGGTACCAG 2
QY	2281	yaagtggaagaagtggaagaagta
ΩP	2281	AGTGGAAGAAGTGGAAGTAGAAGTAGAGTACCAGCGGTAGTAGAAGTAG 23
Qy	2341	cagcggtagtagtagaagaaggtgccagaagaagtagaagaagaagaag
qu	2341	STACCAGCGGTAGTAGAAGAAGAGGTGCCAGAAGAAGTAGAAGAAGAAGAAGAAGAGG 2
Qγ	2401	agtagaggaagaagatgtattacaattagtaataccatcggaagaagatatac 246
qq	2401	aaccagtagaggaagaagatgtattacaattagtaataccatcggaagaagatatac 246
Oy	2461	aaaccaaagaaagacgaattaggctctggaattttatctatc
Db	2461	Pagacaaaccaaagaagacgaattaggctctggaatttatctatc
Qy	2521	actaccaagacgttccaaaggaatttatggaagaagaagaagaagctgcagtgtatccat 2580

```
Sequence 16, Application US/09065058

Sequence 16, Application US/09065058

Patent No. 6225056

GENERAL INFORMATION:
APPLICANT: ABE, SHIZUOKA

APPLICANT: ABE, SHIZUOKA

TITLE OF INVENTION: SOLID PHASES FOR DETECTION OF TARGET NUCLEIC

TITLE OF INVENTION: DETECTING TARGET NUCLEIC ACIDS

NUMBER OF SEQUENCES: 16

CORRESPONDENCE ADDRESS:
ADDRESSE: LEYDIG, VOIT & MAYER, LTD.

STREET: TWO PRUDENTIAL PLAZA, SUITE 4900

CITY: CHCCAGO

STATE: ILLINOIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 32,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/065,058
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPENATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURREWY APPLICATION DATA:
APPLICATION NUMBER: PCT/US92/10792
FILING DATE: 19921211
                                                                                                                                                                                                                                                                                                                                                                                                                                                   ) ORIGINAL SOURCE:

| INDIVIDUAL ISOLATE: OLIGONUCLEOTIDE I, FIGURE

PCT-US92-10792-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Pred. NO. V.V.
                                                                                                                      PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/826,934
FILING DATE: 21-JAN-1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/808,452
FILING DATE: 13-DEC-1991
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         193 aaaaaaatttttttttttttttttt 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2 AAAAAATTTTTTTTTTTTTTTTT 30
                                                                                                                                                                                                                               NAME: Fabian, Gary R.
REGISTRATION NUMBER: 33,875
REFERENCE/DOCKET NUMBER: P-3141
TELECOMMUNICATION INFORMATION:
TELEPRAX: (415) 859-3880
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        97JP3232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
                                                                                                                                                                                                                                                                                                                                                                                                                     MOLECULE TYPE: DNA (genomic) HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: WO 9'
FILING DATE: 12-SEP-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ouery Match
Best Local Similarity 100.0
                                                                                                                                                                                                                                                                                                                                                         LENGTH: 32 base pairs
TYPE: NUCLEIC ACID
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STATE: ILLINOIS
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                         linear
                                                                                           FILING DATE: 19 CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60601
                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-065-058-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      qq
2521 ACTACCAAGACGTTCCAAAGGAATTATGGAAGAAGAAGAAGAAACTGCAGTGTATCCAT 2580
                                             cattggaaaaagttaaattttttgtgttcaattcaatgtgtacaacattttctggaaaa 3240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cycctaaccaaggaagaatggaatcaatttyttaatgaaataaaagtttgaattatagaa 3300
                                                                                                      2641 aaggectagaaggegaetgggaaegattagaagtgagettaaataaggetagagaaagat 2700
                                                                                                                          3181 CATTGGAAAAAGTTAAATTTTTTGTGTTCAATTCAATGTGTACAACATTTTCTGGAAAA 3240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           3241 CGCCTAACCAAGGAAGAATGGAATCAATTTGTTAATGAAATAAAAGTTTGAATTATAGAA 3300
                                                                                                                                                                                  aacgggggttatggttctgaatcatttgaagttatgaccacatcaaaattattaaatgtgg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3301 aaaagaacagattattctcttataaaataaataattc 3337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 1, Application PC/TUS9210792
GENERAL INFORMATION:
APPLICANT: Jayasena, Sumedha D.
APPLICANT: Johnston, Brian H.
TITLE OF INVENTION: Triple Helix Formation at
TITLE OF INVENTION: (PuNPyN)-(PUNPyN) Tracts
NUMBER OF SEQUENCES: 53
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE: SRI International
STREET: 333 Ravenswood Avenue
CITY: Menlo Park
STATE: CA
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ZIP: 94025
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 4
PCT-US92-10792-1
                                                                                                                                                                    2701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3061
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3181
                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
              g
                                             ô
                                                                                                     õ
                                                                                                                                   qq
                                                                                                                                                                    ò
                                                                                                                                                                                               g
                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                     ð
```

Gaps

œ

ö

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ANDRESSEE: Woodcock Washburn Kurtz Mackiewicz & No. 5389526ris STREET: One Liberty Place 46th Floor STATE: Philadelphia STATE: PA
                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Slade, Martin B
APPLICANT: Chang, Andy C M
APPLICANT: Chang, Andy C M
APPLICANT: Williams, Keith L
TITLE OF INVENTION: Improved Plasmid Vectors for Cellular
TITLE OF INVENTION: Slime Moulds of the Genus Dictyostelium
NUMBER OF SEQUENCES: 19
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0.8%; Score 27; DB 1; Length 3138; 00.0%; Pred. No. 0.044; ve 0; Mismatches 0; Indels
                                                                                                                                                                                                            DB 2; Lens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/867,106
FILING DATE: 19920625
PRIOR APPLICATION NUMBER: AU PJ 7187
APPLICATION NUMBER: PCT/AU90/00530
FILING DATE: 02-NOV-1989
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                         Query Match 0.8%; Score 27; DB Best Local Similarity 100.0%; Pred. No. 0.C Matches 27; Conservative 0; Mismatches
                                                                                                         NAME/KEY: Antisense oligonucleotide LOCATION: 1...50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER: RICE-0002
TELECOMMUNICATION INFORMATION:
TELEPHONE: 215-568-3100
TELEFAX: 215-568-3439
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                       195 aaaaatttttttttttttttttttt 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 19103
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0.0°,
100.0%;
0;
                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 4, Application US/07867106
Patent No. 5389526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: Feeney, Joanne Longo
REGISTRATION NUMBER: 35,134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3138 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 0.83
Best Local Similarity 100.0
Matches 27; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: NUCLEIC ACID
STRANDEDNESS: single
TOPOLOGY: circular
        nucleic acid
                                                                                                                     ); 1...50
CTHER INFORMATION:
US-08-828-007-7
                                                 linear
                                                                  MOLECULE TYPE: DNA FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; ANTI-SENSE: NO
US-07-867-106-4
                          STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOLECULE TYPE:
                                                 TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                           US-07-867-106-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COUNTRY:
                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δλ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Chen, Hong
APPLICANT: Friemer, Nelson, B.
TITLE OF INVENTION: THE DIAGNOSIS AND TREATMENT OF NEUROPSYCHIATRIC
TITLE OF INVENTION: DISORDERS
NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 0.8%; Score 28; DB 4; Length 90; Best Local Similarity 100.0%; Pred. No. 0.021; Matches 28; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE: Pennie & Edmonds
STREET: 1155 Avenue of the Americas
CITY: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               200 tttttttttttttttttttttgttcta 227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US/08/828,007
FILING DATE: 27-MAR-1997
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME: Coruzzi, Laura A
REGISTRATION NUMBER: 30,742
REFERENCE/DOCKET NUMBER: 7853-069
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 96243720
FILING DATE: 13-SEP-1996
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                   , rEATURE: 5'-end is phosphorylated US-09-065-058-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ Version 2.0
CURRENT APPLICATION DATA:
                                                                                               ATORNEY/AGENT INPORMATION:
NAME: KILKY JR., JOHN
REGISTRATION UNDRER: 30763
REFERENCE/DOCKET NUMBER: 7288:
TELECOMMUNICATION INFORMATION:
TELEFRAN: (312) 616-5600
TELEFRAN: (312) 616-5700
INFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTERISTICS:
LENGTH: 90 base pairs
TYPE: nucleic acid
STRANDENNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 7, Application US/08828007
Patent No. 5866412
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-790-9090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEFAX: 212-869-8864
TELEFEX: 66141 PENNIE
INFORMATION FOR SEO ID 00: 7:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: IBM Compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ZIP: 10036/2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  50 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                               linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    USA
                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 6
US-08-828-007-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    qq
```

```
RESULT 10
US-08-150-331-45/c
; Sequence 45. Application US/08150331
; Patent No. 5516512
; GENERAL INFORMATION:
APPLICANT: DORSERS J., LAMBERTUS C.
TITLE OF INVENTION:
UNMBER OF SEQUENCES: 48
CORRESPONDENCE ADDRESS:
ADDRESSEE: MORRISON & FOERSTER
STREET: 7. Alto
               Length 76;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: Patentin Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/150,331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 1;
0.12;
                                                        Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HUMAN AMINE RECEPTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 26;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
CLASSIFTCATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/651,437
FILING DATE: 05-FEB-1991
ATTORNEY/AGENT INFORMATION:
                                                                                              200 tttttttttttttttttttttgttc 225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     200 ttttttttttttttttttttgttc 225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              69 TITITITITITITITITITITITITITICITC 44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 1, Application US/08467559B Patent No. 5928890 GENERAL INFORMATION:
APPLICANT: LI, YI
0.8%; Scc.
100.0%; Pre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0.8%; Scc.
100.0%; Pre
0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REGISTRATION NUMBER: 28,216
REFERENCE/DOCKET NUMBER: 24(
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEPHONE: (415) 813-5600
TELEFAX: (415) 494-0792
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ZIP: 94304-1018
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
          Query Match 0.8%
Best Local Similarity 100.4
Matches 26; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 596 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEX: 706141
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME: GRACEY, NANCY J. REGISTRATION NUMBER: 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                single
                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET: 755 Page Mi
CITY: Palo Alto
STATE: California
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: LI, YI TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1..435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 26; Conserva
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RY: USA
94304-1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; LOCATION:
US-08-150-331-45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-467-559B-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Db
                                                                                                                                     qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                         APPLICANT: SOSSIAK, Jack W.
APPLICANT: Roberts, Richard W.
APPLICANT: Liu, Rihe
APPLICANT: Liu, Rihe
TITLE OF INVENTION: ELECTION OF PROTEINS USING RNA-PROTEIN
TITLE OF INVENTION: EUSIONS
FILE REPERENCE: 00786/350006
CURRENT APPLICATION NUMBER: 05/09/244,794A
CURRENT FILING DATE: 1999-02-05
PRIOR PAPLICATION NUMBER: 60/064,491
PRIOR APPLICATION NUMBER: 60/064,491
PRIOR APPLICATION NUMBER: 00/007,005
PRIOR APPLICATION NUMBER: 09/007,005
PRIOR APPLICATION NUMBER: 09/007,005
PRIOR APPLICATION NUMBER: 09/007,005
PRIOR APPLICATION NUMBER: 1998-01.14
NUMBER OF SEQ ID NOS: 33
SOFTWARE: FASTSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 1, Application US/09247190
Sequence 1, Application US/09247190
Sequence 1, Application US/09247190
Sequence 1, Application US/09247190
Setent No. 6261804
Seducari Normation:
APPLICANT: Soberts, Richard W.
APPLICANT: Liu, Rihe
TITLE OF INVENTION: SELECTION OF PROTEINS USING RNA-PROTEIN
TITLE OF INVENTION: BUSIONS
FILE REFERENCE: 00786/350005
CURRENT FILING DATE: 1999-02-09
CURRENT FILING DATE: 1999-02-09
EARLIER APPLICATION NUMBER: 60/035,963
EARLIER FILING DATE: 1997-01-21
EARLIER FILING DATE: 1999-01-11-06
EARLIER FILING DATE: 1998-01-14
NUMBER OF SEQ ID NOS: 38
SOFTWARE: PASSED for Windows Version 4.0
LENGTH: 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 76;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0.8%; Score 26; DB 100.0%; Pred. No. 0.1 tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: RNA
ORGANISM: Artificial Sequence
FRATURE:
OTHER INFORMATION: Translation template
US-09-247-190-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTHER INFORMATION: Translation template US-09-244-794A-1
                              1938 AAAAATTTTTTTTTTTTTTTTTTTT 1964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            200 ttttttttttttttttttgttc 225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    69 TTTTTTTTTTTTTTTTTTTTTTGTTC 44
                                                                                                                                     Sequence 1, Application US/09244794A Patent No. 6214553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: RNA
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity
Matches 26; Conserv
                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-247-190-1/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
```

QQ ò

```
ö
                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                       Gaps
Gaps
;
0
                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                           Length 596;
0; Indels
                                                                                                                                                                                                                                                                                                       Indels
```

```
Length 2406;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 7, Application US/08818823
Fatent No. 5708158
GENERAL INFORMATION:
APPLICANT: HOEY, Timothy
TITLE OF INVENTION: NUCLEAR FACTORS AND BINDING ASSAY
NUMBER OF SEQUENCES: 18
CORRESPONDENCE ADDRESS:
ADDRESSEE: FLEHR, HOHBACH, TEST, ALBRITTON & HERBERT
STREET: 4 Embarcadero Center, Suite 3400
COUNTRY: Canifornia
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ZIP: 94111
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
FILING DATE: 14-MAR-1997
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/396,479
                                                                                                                                                                                                                                                                                                                                                                                              Query Match 0.8%; Score 26; DB 1; Best Local Similarity 100.0%; Pred. No. 0.11; Matches 26; Conservative 0; Mismatches
REFERENCE/DOCKET NUMBER: A-59450-1/RAO TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2398 TITITITITITITITITITITITIC 2373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     200 ttttttttttttttttttttttgttc 225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: 08/396,479 FILING DATE: 02-MAR-1995 ATTORNEY/AGENT INFORMATION:
                                      TELEPHONE: (415) 494-8700
TELEFAX: (415) 494-8771
TELEX: 210 277299
INFORMATION FOR SEQ ID NO: 7:
SEQUENCE CHARACTERISTICS:
LENGTH: 2406 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME: Osman, Richard A
RECITRATION NUMBER: 36,627
REFERENCE/DOCKET NUMBER: A-1
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEPHONE: (415) 494-8700
TELEFAX: (415) 494-8771
TELEX: 210 277299
INFORMATION FOR SEQ ID NO: 7:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
LENGTH: 2406 base pairs
                                                                                                                                                                             TYPE: nucleic acid
STRANDEDNESS: double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: nucleic acid
STRANDEDNESS: double
                                                                                                                                                                                                                                                                                     CDS
211..2337
                                                                                                                                                                                                                                          MOLECULE TYPE: CDNA FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MOLECULE TYPE: CDNA
                                                                                                                                                                                                                        linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-818-823-7/c
                                                                                                                                                                                                                                                                                   ; NAME/KEY;
; LOCATION:
US-08-396-479B-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; NAME/KEY:
; LOCATION:
US-08-818-823-7
                                                                                                                                                                                                                        TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 1380;
                                      ADDRESSEE: STERNE, KESSLER, GOLDSTEIN AND FOX, P.L.L.C.
STREET: 1100 NEW YORK AVENUE, NW, SUITE 600
CITY: WASHINGTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE: FLEHR, HOHBACH, TEST, ALBRITTON & HERBERT STREET: 4 Embarcadero Center, Suite 3400 CITY: San Francisco CITY: California STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 7, Application US/08396479B
Patent No. 5612455
GENERAL INFORMATION:
APPLICANT: HOEY, Timothy
TITLE OF INVENTION:
NUMBER OF SEQUENCES: 18
CORRESPONDENCE ADDRESS:
                                                                                                             STATE: DC
COUNTRY: UNITED STATES OF AMERICA
ZIP: 20005-3934
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/467,559B
FILING DATE: 06-JUN-1995
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: STEFFE, ERIC K
REGISTRATION NUMBER: 36,688
REFERENCE/DOCKET NUMBER: 1488.0840000
TELEPHONE: (202) 371-2540
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
CONTRACTERISTICS:
CONTRACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: Patentin Release #1.0, Version #1.30 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/396,479B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0.8%; Score 26; DB 2;
100.0%; Pred. No. 0.12;
tive 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          196 aaaatttttttttttttttttttt 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION: 435
ATTORNEY/AGENT INPORMATION:
NAME: OSMAN, Richard
REGISTRATION NUMBER: 36,627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 1380 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 0.8%
Best Local Similarity 100.(
Matches 26; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: nucleic acid
STRANDEDNESS: double
NUMBER OF SEQUENCES: 1-
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY: CDS
LOCATION: 252..1262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           inear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      USA
94111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY: li-
MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-396-479B-7/C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; LOCATION:
US-08-467-559B-1
                                                                                                      STATE: D
COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
```

```
Gaps
                                               ö
                                                                                                                                                                                                                                           ; Sequence 342, Application US/09385982
; Batent No. 6262334
; GENERAL INFORMATION:
; APPLICANT: ENDEGE, WILSON O., ET AL.
; TITLE OF INVENTION: NOVEL HUMAN GENES AND GENE EXPRESSION
; TITLE OF INVENTION: NOVEL HUMAN GENES
; CURRENT APPLICATION NUMBER: US/09/385,982
; CURRENT APPLICATION NUMBER: 09/328,111
EARLIER FILING DATE: 1999-06-30
; EARLIER APPLICATION NUMBER: 60/117,393
; EARLIER APPLICATION NUMBER: 60/117,393
; EARLIER FILING DATE: 1999-01-27
; EARLIER FILING DATE: 1999-01-27
; EARLIER FILING DATE: 1998-01-27
; MUMBER OF SED ID NOS: 544
; NUMBER OF SED ID NOS: 544
    Length 337;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Akerblom, Ingrid E. APPLICANT: MARTY, Lynn E. TITLE OF INVENTION: HUMAN CACHEXIA ASSOCIATED PROTEIN NUMBER OF SEQUENCES: 3 CORRESPONDENCE ADDRESS: CORRESPENDENCE ADDRESSE: STREET: 3174 Porter Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0.7%; Score 25; DB 4;
100.0%; Pred. No. 0.31;
tive 0; Mismatches
  Score 25; DB 4;
Pred. No. 0.31;
Query Match 0.7%; Score 25; DB Best Local Similarity 100.0%; Pred. No. 0.3 Matches 25; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OPERATING SYSTEM: DOS
SOFTWARE: FASTSEQ Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/628,413
FILING DATE: Filed Herewith
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        200 tttttttttttttttttttgtt 224
                                                                                                                     10 ttttttttttttttttttttttt34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COCATION: (1)...(342)
COTHER INFORMATION: n = A,T,C or G
US-09-385-982-342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 1, Application US/08628413
Patent No. 5834192
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 0.7
Best Local Similarity 100.
Matches 25; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ZIP: 94304
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: DNA . ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME/KEY: misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STATE: CA
COUNTRY: U.S.
TD: 94304
                                                                                                                                                                                                    RESULT 16
US-09-385-982-342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-628-413-1/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ ID NO 342
LENGTH: 342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CITY:
                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                              Sequence 3, Application US/09740035
Patent No. 6144353
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION:
GENERAL APPLICATION WOLES ENCODING HUMAN PROTEASE PROTEINS, AND TITLE OF INVENTION:
USES THEREOF CLUO1058
CURRENT APPLICATION NUMBER: US/09/740,035
CURRENT APPLICATION NUMBER: US/09/740,035
CURRENT FILING DATE:
SOFTWARE: FastSEQ for Windows Version 4.0
SSEQ ID NO 3
LENGTH: 19736
                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                     Gaps
                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 19736;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Burges, Christopher C.
APPLICANT: Burges, Christopher C.
APPLICANT: Burges, Christopher C.
APPLICANT: Carroll III, Eddie
APPLICANT: Carroll III, Eddie
APPLICANT: Catloo, Theodore J.
APPLICANT: Derti, Adnan
APPLICANT: Ford, Donna M.
APPLICANT: Ford, Donna M.
APPLICANT: Lewis, Marcia E.
APPLICANT: Schlegel, Robert
APPLICANT: Schlegel, Robert
TILLE OF INVENTION: NOVEL HUMAN GENES AND GENE EXPRESSION
TITLE OF INVENTION: PRODUCTS
FILE REFERENCE: CCD-257 (US)
CURRENT FILING DATE: 1999-06-08
EARLIER APPLICATION NUMBER: US 60/088, 801
EARLIER FILING DATE: 1999-06-10
NUMBER OF SEQ ID NOS: 850
SOFTWARE: FASTSEQ for Windows Version 3.0
SEQ ID NO 586
LENGTH: 337
                   DB 1; Length 2406; 0.11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                   Query Match 0.8%; Score 26; DB Best Local Similarity 100.0%; Pred. No. 0.1 Matches 26; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 0.8%; Score 26; DB Best Local Similarity 100.0%; Pred. No. 0.1 Matches 26; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Db 3500 aaattttttttttttttttttttg 3525
                                                                                                                                   197 aaatttttttttttttttttg 222
                                                                                                           200 ttttttttttttttttttgttc 225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 586, Application US/09328111 Patent No. 6262333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Endege, Wilson O.
APPLICANT: Steinmann, Kathleen E.
APPLICANT: Astle, Jon H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    , ORGANISM: Homo sapiens
US-09-328-111-586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; ORGANISM: Human
US-09-740-035-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JS-09-328-111-586
                                                                                                                                                                                                                            RESULT 14
US-09-740-035-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: DNA
                                                                                                                                                       g
                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
```

```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;
0
                                                                                                                                                                                                  .;
0
                                                                                                                                                                                                                                                                                                                                                                                    Sequence 41, Application US/08668123
Fatent No. 5891631
GENERAL INFORMATION:
APPLICANT: Brown, Michael S.
APPLICANT: Brown, Michael R.
APPLICANT: Brown, Michael R.
APPLICANT: Goldstein, Joseph L.
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING
TITLE OF INVENTION: PROTEINS
TITLE OF INVENTION: PROTEINS
CORRESPONDENCES: 64
CORRESPONDENCE ADDRESS:
ADDRESSEE: ALOIGN WHITE & DURKEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 547;
                                                                                                                                                      Length 547;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY: U.S.A.
ZIP: 77210
COMPUTER READABLE FORM:
MEDIUM TYPE: FLOPPY disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                  0.7%; Score 25; DB 1;
100.0%; Pred. No. 0.3;
Live 0; Mismatches (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/08/668,123
FILING DATE: 14-JUN-1996
FILING DATE: 14-JUN-1996
FILING APPLICATION DATA:
APPLICATION NUMBER: 08/131,365
FILING DATE: 01-OCT-1993
ATTORNEY/AGENT INFORMATION:
NAME: Parker, David L.
REGISTRATION NUMBER: 32,165
REFERENCE/DOCKET NUMBER: UTSD:372/PAR
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 25;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MOLECULE TYPE: other nucleic acid DESCRIPTION: /desc = "DNA"
                                                                                                                                                                                                                                             200 tttttttttttttttttttttgtt 224
                                                                                                                                                                                                                                                                                    540 TTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 0.7%; Scc
Best Local Similarity 100.0%; Pi
Matches 25; Conservative 0;
  DESCRIPTION: /desc = "DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELEPHONE: (512) 418-3000
TELEFAX: (512) 474-7577
INFORMATION FOR SEQ ID NO: 41:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE CHARACTERISTICS:
LENGTH: 547 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           linear
                                                                                                                                                                         Best_Local Similarity
Matches 25; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Houston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Texas
                                                                                                                                                                                                                                                                                                                                                    RESULT 19
US-08-668-123-41/c
                                         ; NAME/KEY:
; LOCATION:
US-08-131-3658-41
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STATE:
                                                                                                                                                      Query Match
                                                                                                                                                                                                                                             Qγ
                                                                                                                                                                                                                                                                                    qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                           0.7%; Score 25; DB 2; Length 523; illarity 100.0%; Pred. No. 0.31; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Briggs, Michael S.
APPLICANT: Briggs, Michael R.
APPLICANT: Briggs, Michael R.
APPLICANT: Wang, Xiaodong
APPLICANT: Goldstein, Joseph L.
TITLE OF INVENTION: METHODS AND COMPOSITIONS RELATING
TITLE OF INVENTION: TO STEROL REGULATORY ELEMENT BINDING
TITLE OF INVENTION: PROTEINS
NUMBER OF SEQUENCES: 64
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER FEATURE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: Eloppy disk
COMPUTER: ELOPPY disk
COMPUTER: TEM PC COMPATIBLE
COPERATIOS SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTION BATA:
APPLICATION NUMBER: US/08/131,365B
FILING DATE: 01-OCT-1993
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: PARKER: David L.
REGISTRATION NUMBER: 32,165
REGISTRATION NUMBER: 32,165
REFERENCE/POCKET NUMBER: UTDD:372/PAR
TELECOMMULICATION INFORMATION:
TELEPHONE: (512) 418-3000
                                      NAME: Luther, Barbara J
REGISTRATION NUMBER: 33,954
REFERENCE/DOCKET NUMBER: PF-0062 US
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-855-0555
TELEFAX: 415-852-0195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Arnold, White & Durkee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-131-365B-41/c
; Sequence 41, Application US/08131365B
; Detent No. 5527690
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOLECULE TYPE: other nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           477 AAATTTTTTTTTTTTTTTT 453
                                                                                                                                               TELEFAX: 415-852-0195
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 523 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: (512) 474-7577
INFORMATION FOR SEQ ID NO: 4
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH: 547 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    : P.O. Box 4433
Houston
                                                                                                                                                                                                                                                                                                                                                    BRSTTUT01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 linear
                                                                                                                                                                                                                                                                                  TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 25; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY: U.S.A. ZIP: 77210
                                                                                                                                                                                                                                                                                                      MOLECULE TYPE: CI
                                                                                                                                                                                                                                                                                                                                                    LIBRARY: BRST
CLONE: 607227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Texas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                           US-08-628-413-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
```

ó

Gaps

q

å

```
APPLICANT: Balint, Robert F.
TITLE OF INVENTION: Human Cationic Proteins Having
TITLE OF INVENTION: Lipopolysaccharide Binding and Anti-Coagulant Activity
NUMBER OF SEQUENCES: 30
CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and and and anti-Coagulant Activity
ADDRESSEE: Townsend and and and anti-Coagulant Activity
                                                                                                                                                                                                                                                                                                                                                                           .;
0
                                                                                                                                                                                                                                                                                                                               Length 587;
                                                                                                                                                                                                                                                                                                                                                                           0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/322,911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 E: Townsend and Townsend and Crew LLP Two Embarcadero Center, 8th Floor
                                                                                                                                                                                                                                                                                                                             DB 1;
0.3;
                                                                                                                                                                                                                                                                                                                0.7%; St.
100.0%; Pred. No. v.
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME: Fitts, Renee A.
REGISTRATION NUMBER: 35,136
REFERENCE/DOCKET NUMBER: 15325-000920
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-326-2400
                    REFERENCE/DOCKET NUMBER: 15325-9-1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-326-2400
TELEPHONE: 415-326-2422
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 587 base pairs
TYPE: nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: PCT/US93/06731
FILING DATE: July 15, 1993
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/691,280
FILING DATE: AUGUST 1, 1996
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/916,761
FILING DATE: July 17, 1992
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/916,765
FILING DATE: July 17, 1992
PRIOR APPLICATION NUMBER: 07/916,765
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 3, Application US/09322911 Patent No. 6103888 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   08/313,681
    29,541
                                                                                                                                                                                                                                              DNA (genomic)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE: September 2
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ZIP: 94111-3834
COMPUTER READABLE FORM:
    REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            San Francisco
California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 25; Conserva
                                                                                                                                                                                          STRANDEDNESS: sir
                                                                                                                                                                                                                                         MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-322-911-3/c
                                                                                                                                                                                                                                                                US-08-313-681A-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STATE:
                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Larrick, James W.
APPLICANT: Wright, Susan C.
APPLICANT: Wright, Susan C.
APPLICANT: Wright, Susan C.
APPLICANT: Wishingsa
TITLE OF INVENTION: Lipopolysaccharide Binding and Anti-Coagulant Activity
NUMBER OF SEQUENCES: 30
CORRESPONDENCE ADDRESS:
ADDRESSEE: Townsend and Townsend Khourie and Crew
STREFT: One Market Plaza, Steuart Tower, Suite 2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                   GENERAL INCORMATION:
APPLICANT: ENDEGE, WILSON O., ET AL.
TITLE OF INVENTION: NOVEL HUMAN GENES AND GENE EXPRESSION
TITLE OF INVENTION: NOVEL HUMAN GENES AND GENE EXPRESSION
TITLE OF INVENTION: NOVEL HUMAN GENES
CURRENT APPLICATION NUMBER: US/09/385,982
CURRENT FILING DATE: 1999-08-30
EARLIER FILING DATE: 1999-06-08
EARLIER APPLICATION NUMBER: 60/113
EARLIER PILING DATE: 1999-01-27
EARLIER FILING DATE: 1999-01-27
EARLIER FILING DATE: 1998-08-31
NUMBER OF SEQ ID NOS: 544
SSO ID NO 427
LENGTH: 567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0.7%; Score 25; DB 4; Length 567; ilarity 100.0%; Pred. No. 0.3; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OPERATING SYSTEM: PC-DOS/MS-DOS
SOPTWARE: Patentin Release #1.0, Version #1.25
GURENT APPLICATION DATA:
APPLICATION NUMBER: US/08/313,681A
                                                                                                                                              Sequence 427, Application US/09385982 Patent No. 6262334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          200 ttttttttttttttttttgtt 224
200 tttttttttttttttttttgtt 224
                                        540 TTTTTTTTTTTTTTTTTTTTTTTTTTTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            14 tttttttttttttttttttgtt 38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 3, Application US/08313681A Patent No. 5618675 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; OTHER INFORMATION: n = A,T,C or G
US-09-385-982-427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/WS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Heslin, James M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET: One Market P
CITY: San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE:
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: misc_feature LOCATION: (1)...(567)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity
Matches 25; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-08-313-681A-3/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           94105
                                                                                                                          US-09-385-982-427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME:
```

ŝ g

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEGURAL INCORANTION:
APPLICANT: ENDEGE, WILSON O., ET AL.
TITLE OF INVENTION: NOVEL HUMAN GENEE SAND GENE EXPRESSION
TITLE OF INVENTION: NOVEL HUMAN GENES AND GENE EXPRESSION
TITLE OF INVENTION: PRODUCTS: II
FILE REFERENCE: CCDNA-260XX
CURRENT APPLICATION NUMBER: 08/09/385,982
CURRENT FILING DATE: 1999-08-30
EARLIER FILING DATE: 1999-06-08
EARLIER FILING DATE: 1999-01-27
EARLIER FILING DATE: 1999-01-27
EARLIER FILING DATE: 1998-01-27
EARLIER FILING DATE: 1998-01-27
EARLIER FILING DATE: 1998-01-27
EARLIER FILING DATE: 1998-01-27
EARLIER FILING DATE: 1998-08-31
NUMBER OF SEQ ID NOS: 544
NUMBER OF SEQ ID NOS: 544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 4; Length 629; 0.3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 3, Application US/09352990
Patent No. 6255000
GENERAL INFORMATION:
APPLICANT: Famodu, Layo O.
APPLICANT: Rafalski, Antoni
TITLE OF INVENTION: Plant Aminoacyl-tRNA Synthetase
                                                                                                                                                                                                                                                                                                                                                                                         DB 4;
0.3;
                                                                                                                                                                                                                                                                                                                                                                                         Score 25; DB 4; Pred. No. 0.3; 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ouery Match 0.7%; Score 25; DB Best Local Similarity 100.0%; Pred. No. 0.3 Matches 25; Conservative 0; Mismatches
                      EARLIER APPLICATION NUMBER: 60/098,639
EARLIER FILING DATE: 1998-08-31
NUMBER OF SEQ ID NOS: 544
SSOFTWARE: FastSEQ for Windows Version 3.0
SSO ID NO 288
LENGTH: 607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 389, Application US/09385982 Patent No. 6262334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       200 ttttttttttttttttttttttgtt 224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           200 ttttttttttttttttttttgtt 224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6 tttttttttttttttttttttgtt 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5 tttttttttttttttttttttgtt 29
                                                                                                                                                                                                                                                                                                - A, T, C or G
                                                                                                                                                                                                                                                                                                                                                                                         Query Match 0.7%; Sc
Best Local Similarity 100.0%; P
Matches 25; Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LOCATION: (1)...(629)
OTHER INFORMATION: n = A,T,C or
  EARLIER FILING DATE: 1999-01-27
                                                                                                                                                                        TYPE: DNA ORGANISM: Homo sapiens FEATURE:
                                                                                                                                                                                                                                             NAME/KEY: misc_feature;

LOCATION: (1)...(607)

CTHER INFORMATION: n = US-09-385-982-288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-352-990-3/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-385-982-389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-385-982-389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQ ID NO 389
LENGTH: 629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
CHARLE OF INVENTION: NOVEL HUMAN GENES AND GENE EXPRESSION
TITLE OF INVENTION: NOVEL HUMAN GENES AND GENE EXPRESSION
TITLE OF INVENTION: PRODUCTS: II
FILE REPERENCE: CCDNA-2604-30
CURRENT APPLICATION NUMBER: US/09/385,982
CURRENT FILING DATE: 1999-06-08
EARLIER PILING DATE: 1999-06-08
EARLIER FILING DATE: 1999-06-08
EARLIER FILING DATE: 1999-06-08
EARLIER FILING DATE: 1999-06-37
EARLIER FILING DATE: 1998-08-31
NUMBER OF SEQ ID NOS: 544
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 262
LENGTH: 593
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0.7%; Score 25; DB 4; Length 593; 100.0%; Pred. No. 0.3; Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                         Length 587;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: ENDEGE, WILSON O., ET AL.
TITLE OF INVENTION: NOVEL HUMAN GENES AND GENE EXPRESSION
TITLE OF INVENTION: NOVEL HUMAN GENES AND GENE EXPRESSION
TITLE OF INVENTION: PRODUCTS: II
FILE REFERENCE: CCDNA.260XX
CURRENT APPLICATION NUMBER: US/09/385,982
CURRENT FILING DATE: 1999-08-30
EARLIER FILING DATE: 1999-06-08
EARLIER FILING DATE: 1999-06-08
EARLIER APPLICATION NUMBER: 60/117,393
                                                                                                                                                                                                                                                                         DB 3;
                                                                                                                                                                                                                                                                    Query Match 0.7%; Score 25; DB Best Local Similarity 100.0%; Pred. No. 0.3 Matches 25; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                ; Sequence 288, Application US/09385982
; Patent No. 6262334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 262, Application US/09385982 Patent No. 6262334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               200 ttttttttttttttttttttttgtt 224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         6 ttttttttttttttttttgtt 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; LOCATION: (1)...(593)
; OTHER INFORMATION: n = A,T,C or G
US-09-385-982-262
                                                                                                                                               ; TOPOLOGY: linear
; MOLECULE TYPE: DNA (genomic)
US-09-322-911-3
                                             SEQUENCE CHARACTERISTICS:
LENGTH: 587 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity 100.
Matches 25; Conservative
TELEFAX: 415-326-2422 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 24
US-09-385-982-288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-385-982-262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ŏ
```

Gaps

Gaps

```
6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                      Sequence 511, Application US/09385982

Sequence 511, Application US/09385982

GENERAL INFORMATION:

TITLE OF INVENTION: NOVEL HUMAN GENES AND GENE EXPRESSION

TITLE OF INVENTION: NOVEL HUMAN GENES AND GENE EXPRESSION

TITLE OF INVENTION: PRODUCTS: II

FILE REFERENCE: CCDNA-260xx

CURRENT FILING DATE: 1999-08-30

EARLIER PLILING DATE: 1999-06-08

EARLIER FILING DATE: 1999-06-08

EARLIER FILING DATE: 1999-01-27

EARLIER FILING DATE: 1999-01-27

EARLIER FILING DATE: 1999-01-27

EARLIER FILING DATE: 1998-08-31

NUMBER OF SEQ ID NOS: 544

SOFTWARE: FastSEQ for Windows Version 3.0

SED ID NO 531

LENTH: 777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 777;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 1, Application US/08441629

Sequence 1, Application US/08441629

Patent No. 5766923

GENERAL INFORMATION:

APPLICANT: Kinoshita, No. 5766923iyuki

TITLE OF INVENTION: RECEPTOR-LIGAND ASSAY

NUMBER OF SEQUENCES: 17

CORRESPONDENCE ADDRESS:

ADDRESSEE: Hamilton, Brook, Smith & Reynolds, P.C.

STREET: Two Militia Drive

CITY: Lexington

STATE: Massachusetts

COUNTRY: USA
                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/441,629
FILING DATE: 15-MAY-1995
                              ;;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0.7%; Scor.
100.0%; Pred. No. ...
0; Mismatches
        100.0%; Pred. No. 0.3;
                              Mismatches
                                                                  200 ttttttttttttttttttttttgtt 224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY: misc_feature

LOCATION: (1)...(777)

CHER INFORMATION: n = A,T,C or
US-09-385-982-531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100.0
warrhes 25; Conservative
        Best Local Similarity 100.0
Matches 25; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Homo sapiens
                                                                                                                                                                          RESULT 28
US-09-385-982-531
                                                                                                         QQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Pressed V.S. Kanteti, Zhaohui Ao, and Stuart F. APPLICANT: Schlossman
TITLE OF INVENTION: The Siva Genes, No. 6010853el Genes Involved in TITLE OF INVENTION: CD27-Mediated Apoptosis
NUMBER OF SEQUENCES: 12
CORRESPONDENCE ADDRESS:
ADDRESSEE: LAHIVE & COCKFIELD, LLP
STREET: Boston
STATE: Massachusetts
                                                                                                                                                                                                                                                                                                                                          .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 3; Length 770;
                                                                                                                                                                                                                                                                                               Ouery Match 0.7%; Score 25; DB 4; Length 730; Best Local Similarity 100.0%; Pred. No. 0.3; Matches 25; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE: PATENTEN PC-DOS/MS-DOS SOFTWARE: PATENTIN RELEASE #1.0, Version #1.25 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/865,297 FILING DATE: US/08/865,297 CLASSIFICATION 435 PRIOR APPLICATION DATA: APPLICATION NUMBER: FILING DATE: ATTORNEY/ACTION
FILE REFERENCE: BB-1191
CURRENT APPLICATION NUMBER: US/09/352,990
CURRENT FILING DATE: 1999-07-14
FARLIER APPLICATION NUMBER: 60/092,866
FARLIER FILING DATE: JULY 15, 1998
NUMBER OF SEQ ID NOS: 29
SOFTWARE: Microsoft Office 97
SOFTWARE: 130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0.7%; Score 25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Silveri, Jean M.
REGISTRATION NUMBER: 39,030
REFERENCE/DOCKET NUMBER: DFN-024
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617)227-7400
TELEFAX: (617)227-5941
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                 200 ttttttttttttttttttgtt 224
                                                                                                                                                                                                                                                                                                                                                                                                                        721 TTTTTTTTTTTTTTTTTTTTTTTTTTTGTT 697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY: USA
ZIP: 02109-1875
COMPUTER READALE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPALIBLE
SOFTWARE: PATOM: PC-DOS AND CURRENTY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-08-865-297-5/c
; Sequence 5. Application US/08865297
; Patent No. 6010853
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH: 770 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                         ; TYPE: DNA
; ORGANISM: Oryza sativa
US-09-352-990-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                88..612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY: CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; LOCATION:
US-08-865-297-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                             6
```

ö

Gaps

```
;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;
                                                                                                                                                                                                                                                                                                                                         0.7%; Score 25; DB 1; Length 809; 100.0%; Pred. No. 0.3; tive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0.7%; Score 25; DB 3; Length 809;
100.0%; Pred. No. 0.3;
Live 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Kirschner, Marc W.
APPLICANT: Kirschner, Marc W.
APPLICANT: Kinoshita, No. 6080718iyuki
TITLE CO INVENTION: Receptor-Ligand Assay
FILE REFERENCE: 1409-01A2
CURRENT APPLICATION NUMBER: US/08/776,207A
CURRENT FILING DATE: 1997-06-23
EARLIER FILING DATE: 1997-06-23
EARLIER FILING DATE: 1995-07-19
EARLIER FILING DATE: 1995-07-19
EARLIER FILING DATE: 1994-07-22
NUMBER OF SEQ ID NOS: 18
SEQ ID NO SEQ ID NOS: 18
LENTH: 809
                                                    NAME: Granahan, Patricia
REGISTRATION NUMBER: 32.227
REFERENCE/DOCKET NUMBER: 4095-01A
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 861-6240
TELEPAX: (617) 861-6540
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE GRARACTERISTICS:
LENGTH: 809 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
STRANDEDNESS: double
GRARADEDNESS: double
GRARADEDNESS: linear
APPLICATION NUMBER: US 08/279,217 FILING DATE: 22-JUL-1994 ATTORNEY/AGENT INFORMATION:
NAME: Granahan, Patricia
                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 1, Application US/08776207A
Patent No. 6080718
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ouery Match
Best Local Similarity 100.0
                                                                                                                                                                                                                                                                                                                                       Ouery Match 0.74
Best Local Similarity 100.0
Matches 25; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: DNA
ORGANISM: Xenopsus laevis
US-08-776-207-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 30
US-08-776-207-1/c
                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QΩ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
```

Search completed: June 14, 2002, 20:29:19 Job time: 12413 sec